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## OVERALL RATE OF RETURN TERMS, ABBREVIATIONS AND ACRONYMS

Terms, Abbreviations and Acronyms	Defined
CAPM	Capital Asset Pricing Model
Commission	Idaho Public Utilities Commission
Company	Veolia Water Idaho, Inc.
Comparable Companies	Water Group Followed by Analysts
Comparable Group	Water Group Followed by Analysts
Cost of Capital	Investor-required cost rate
DCF	Discounted Cash Flow
DPS	Dividend per share
EPA	U.S. Environmental Protection Agency's
EPS	Earnings per share
Financial Risk	Leverage
GICS	Global Industry Classification System
GO	General Obligation Bonds
IOU	Investor Owned Utilities
Leverage	Fixed cost capital
Long-term U.S. Treasury Securities	Base Risk-Free Rate
M/B	Market-to-Book Ratios
Moody's	Moody's Investors Service
NARUC	National Association of Regulatory Utility Commissioners
Non-Systematic Risk	Company-Specific Risk
PUC	Idaho Public Utilities Commission
ROE	Return on Equity
RP	Risk Premium
S&P	Standard & Poor's
SIC	Standard Industrial Classification
Systematic Risk	Non-Diversifiable Risk
Value Line	Value Line Investment Survey
VUR	Veolia Utility Resources LLC
VWID	Veolia Water Idaho, Inc.
Water Group	Water Group Followed by Analysts

1 **INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Harold Walker, III. My business address is 1010 Adams Avenue,  
4 Audubon, Pennsylvania 19403.

5 **Q. By whom are you employed and in what capacity?**

6 A. I am employed by Gannett Fleming Valuation and Rate Consultants, LLC as  
7 Manager, Financial Studies.

8 **Q. What is your educational background and employment experience?**

9 A. My educational background, business experience and qualifications are provided  
10 in Appendix A.

11 **SCOPE OF TESTIMONY**

12 **Q. What is the purpose of your testimony?**

13 A. The purpose of my testimony is to recommend an appropriate overall rate of return  
14 that Veolia Water Idaho, Inc. (“VWID” or the “Company”) should be afforded an  
15 opportunity to earn on its water service rate base. My testimony is supported by  
16 Exhibit No. 1, which is composed of 19 Schedules.

17 **SUMMARY OF RECOMMENDATION**

18 **Q. What is your recommended cost of equity?**

19 A. My recommendation is that VWID be permitted an overall rate of return of 7.77%,  
20 including a 10.80% cost of common equity, based upon the Company’s capital  
21 structure at June 30, 2022. My recommended cost of common equity reflects  
22 VWID’s unique risk characteristics.

1 **Q. How did you determine your recommended common equity cost rate?**

2 A. I used several models to help me in formulating my recommended common equity  
3 cost rate including Discounted Cash Flow (“DCF”), Capital Asset Pricing Model  
4 (“CAPM”) and Risk Premium (“RP”).

5 **Q. Is it important to use more than one market model?**

6 A. Yes. It is necessary to estimate common equity cost rates using a number of  
7 different models. At any given time, a particular model may understate or overstate  
8 the cost of equity. While any single investor may rely solely upon one model,  
9 different investors rely on different models and many investors use multiple  
10 models. Therefore, because the price of common stock reflects a number of  
11 valuation models, it is appropriate to estimate the market-required common equity  
12 cost rate by applying a broad range of analytical models.

13 **Q. Please summarize your common equity cost rate recommendation.**

14 A. There is no market data concerning VWID’s shares of common stock because  
15 VWID shares of common stock are not publicly traded. Accordingly, due to the  
16 lack of market data concerning the VWID’s equity, I used a comparable group of  
17 publicly traded companies to estimate the common equity cost rate. Based upon the  
18 results of my entire analysis, I conclude VWID’s current common equity cost rate  
19 is at least 10.80%. The current range of common equity cost for VWID is 9.60%  
20 (DCF), 11.60% (CAPM), and 11.30% (RP). Value Line Investment Survey  
21 (“Value Line”) is relied upon by many investors and is the only investment advisory  
22 service of which I am aware that projects earned return on equity. As a check on  
23 the reasonableness of my common equity cost rate recommendation, I reviewed

1 Value Line's projected returns on common equity for comparable utilities. Value  
2 Line's projected earned returns on common equity for my comparable utilities  
3 range from 10.6% to 10.8%. The range of the projected returns suggests that my  
4 recommendation that VWID be permitted an opportunity to earn 10.80% is  
5 reasonable, if not conservative.

6 **PRINCIPLES OF RATE REGULATION AND FAIR RATE OF RETURN**

7 **Q. What are the principles guiding fair rates of return in the context of rate**  
8 **regulation?**

9 A. In a capitalistic or free market system, competition determines the price for all  
10 goods and services. Utilities are permitted to operate as monopolies or near  
11 monopolies as a tradeoff for a ceiling on the price of service because: (1) the  
12 services provided by utilities are considered necessities by society; and (2) capital-  
13 intensive and long-lived facilities are necessary to provide utility service.  
14 Generally, utilities are required to serve all customers in their service territory at  
15 reasonable rates determined by regulators. As a result, regulators act as a substitute  
16 for a competitive-free market system when they authorize prices for utility service.

17 Although utilities operate in varying degrees as regulated monopolies, they  
18 must compete with governmental bodies, non-regulated industries, and other  
19 utilities for labor, materials, and capital. Capital is provided by investors who seek  
20 the highest return commensurate with the perceived level of risk; the greater the  
21 perceived risk, the higher the required return rate. In order for utilities to attract the  
22 capital required to provide service, a fair rate of return should equal an investor-  
23 required, market-determined rate of return.

1 **Q. WHAT CONSTITUTES A FAIR RATE OF RETURN?**

2 A. Two noted Supreme Court cases define the benchmarks of a fair rate of return. In  
3 *Bluefield*<sup>1</sup>, a fair rate of return is defined as: (1) equal to the return on investments  
4 in other business undertakings with the same level of risks (the comparable earnings  
5 standard); (2) sufficient to assure confidence in the financial soundness of a utility  
6 (the financial integrity standard); (3) adequate to permit a public utility to maintain  
7 and support its credit, enabling the utility to raise or attract additional capital  
8 necessary to provide reliable service (the capital attraction standard). The second  
9 case, *Hope*<sup>2</sup>, determined a fair rate of return to be based upon guidelines found in  
10 *Bluefield* as well as stating that: (1) allowed revenues must cover capital costs  
11 including service on debt and dividends on stock; and (2) the Commission was not  
12 bound to use any single formula or combination of formulae in determining rates.  
13 Utilities are not entitled to a guaranteed return. However, the regulatory-  
14 determined price for service must allow the utility a fair opportunity to recover all  
15 costs associated with providing the service, including a fair rate of return.

16 **INVESTMENT RISK**

17 **Q. Previously, you referred to risk. Please define the term risk.**

18 A. Risk is the uncertainty associated with a particular action; the greater the  
19 uncertainty of a particular outcome, the greater the risk. Investors who invest in  
20 risky assets expose themselves to investment risk particular to that investment.  
21 Investment risk is the sum of business risk and financial risk. Business risk is the

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<sup>1</sup>Bluefield Water Works & Improvement Company v. P.S.C. of West Virginia, 262 U.S. 679 (1923).

<sup>2</sup>Federal Power Commission v. Hope Natural Gas Company, 320 U.S. 591 (1944).

1 risk inherent in the operations of a business. Assuming that a Company is financed  
2 with 100% common equity, business risk includes all operating factors that affect  
3 the probability of receiving expected future income such as: sales volatility,  
4 management actions, availability of product substitutes, technological  
5 obsolescence, regulation, raw materials, labor, size and growth of the market  
6 served, diversity of the customer base, economic activity of the area served, and  
7 other similar factors.

8 **Q. What is financial risk?**

9 A. Financial risk reflects the manner in which an enterprise is financed. Financial risk  
10 arises from the use of fixed cost capital (leverage) such as debt and/or preferred  
11 stock, because of the contractual obligations associated with the use of such capital.  
12 Because the fixed contractual obligations must be serviced before earnings are  
13 available for common stockholders, the introduction of leverage increases the  
14 potential volatility of the earnings available for common shareholders and therefore  
15 increases common shareholder risks.

16 Although financial risk and business risk are separate and distinct, they are  
17 interrelated. In order for a company to maintain a given level of investment risk,  
18 business risk and financial risk should complement one another to the extent  
19 possible. For example, two firms may have similar investment risks while having  
20 different levels of business risk, if the business risk differences are compensated  
21 for by using more or less leverage (financial risk) thereby resulting in similar  
22 investment risk.

1 **DESCRIPTION OF VWID**

2 **Q. Please give a brief description of the Company.**

3 A. VWID is a private or investor-owned company. VWID is a regulated public utility  
4 that provides water service to about 100,000 (12/31/21) customers located in their  
5 franchise territories in Boise, parts of Eagle, and unincorporated areas of Ada  
6 County, Idaho. The price of service of VWID is regulated by the Idaho Public  
7 Utilities Commission (“Commission” or “PUC”).

8 VWID is a wholly-owned subsidiary of Veolia Utility Resources LLC  
9 (“VUR”). VUR is the sole source of VWID’s external capital. VUR owns and  
10 provides services to water and wastewater utility companies which are located  
11 throughout the United States (e.g., VWID). VUR was founded in 1869 and is based  
12 in Paramus, New Jersey. VUR is a subsidiary of Veolia Utility Parent, Inc., which  
13 is a subsidiary of Veolia North America, Inc.

14 Veolia North America, Inc. is a wholly-owned subsidiary of Veolia  
15 Environnement S.A: Veolia Environnement S.A. is a French transnational company  
16 with activities in three main service and utility areas: water management, waste  
17 management and energy services.

18 **THE INDUSTRY**

19 **Q. Please give a brief overview of the industry in which the Company operates.**

20 A. VWID operates in the water supply industry. The water supply industry has a  
21 Standard Industrial Classification (“SIC”) code of 4941, has water utilities, and  
22 includes establishments primarily engaged in distributing water for sale for  
23 residential, commercial, and industrial uses. Government controlled

1 establishments such as municipalities, public service districts and other local  
2 governmental entities dominate the industry. Private companies or investor owned  
3 utilities (“IOU”) are active in the construction and improvement of water supply  
4 facilities and infrastructure. There are currently about 11,000 U.S. Businesses with  
5 a SIC code of 4941.

6 A comparative industry to the water supply industry is the wastewater  
7 supply industry. The wastewater utility industry has a Standard Industrial  
8 Classification (“SIC”) code of 4952 (Sewerage Systems), has sewer utilities, and  
9 includes establishments primarily engaged in the collection and disposal of wastes  
10 conducted through a sewer system, including such treatment processes as may be  
11 provided. There are currently about 2,200 U.S. Businesses with a SIC code of 4952.

12 The water supply industry is the most fragmented of the major utility  
13 industries with more than 53,000 community water systems in the U.S. (83% of  
14 which serve less than 3,300 customers). The nation’s water systems range in size  
15 from large municipally owned systems, such as the New York City water system  
16 that serves approximately 9 million people, to small systems, where a few  
17 customers share a common well.

18 According to the U.S. Environmental Protection Agency’s (“EPA”) most  
19 recent survey of publicly-owned wastewater treatment facilities in 2008, there are  
20 approximately 15,000 such facilities in the nation, serving approximately 74% of  
21 the U.S. population. Ninety eight percent of domestic wastewater systems are

1 government owned rather than IOUs. Currently, there are no wastewater utility  
2 companies that have actively traded stock.<sup>3</sup>

3 An estimated 16% of all water supplies are managed or owned by IOUs.  
4 IOUs consist of companies with common stock that is either actively traded or  
5 inactively traded, as well as companies that are closely held, or not publicly traded.  
6 Currently, there are only about nine investor owned water utility companies with  
7 publicly traded stock in the U.S.

8 The water utility industry's and wastewater utility industry's increased  
9 compliance with state and federal water purity levels and large infrastructure  
10 replacements are driving consolidation of the wastewater utility and water utility  
11 industries. Because many wastewater utility and water utility operations do not  
12 have the means to finance the significant capital expenditures needed to comply  
13 with these requirements, many have been selling their operations to larger,  
14 financially stronger utilities.

15 The larger IOUs have been following an aggressive acquisition program to  
16 expand their operations by acquiring smaller wastewater and water systems.  
17 Generally, they enter a new market by acquiring one or several wastewater or water  
18 utilities. After their initial entry into a new market, the larger investor-owned water  
19 utility companies continually seek to expand their market share and services  
20 through the acquisition of wastewater and water utility businesses and operations  
21 that can be integrated with their existing operations. Such acquisitions may allow  
22 a company to expand market share and increase asset utilization by eliminating

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<sup>3</sup>Many of the publicly traded water utility stocks also own some wastewater utilities but there are no publicly traded utility stocks which are comprised solely of wastewater utilities.

1 duplicate management, administrative, and operational functions. Acquisitions of  
2 small, independent utilities can often add earning assets without necessarily  
3 incurring the costs associated with the SDWA if such acquisitions are contiguous  
4 to the potential purchaser.

5 In summary, the result of increased capital spending, to meet the SDWA  
6 and CWA requirements<sup>4</sup> and replace the aging infrastructure of many systems, has  
7 moved the wastewater and water industries toward consolidation. Moreover,  
8 Federal and State regulations and controls concerning water quality are still in the  
9 process of being developed and it is not possible to predict the scope or the  
10 enforceability of regulations or standards which may be established in the future,  
11 or the cost and effect of existing and potential regulations and legislation upon  
12 VWID. However, as a medium size water system, VWID faces the cost of  
13 compliance with less financial resources when compared to larger IOU water  
14 utilities.

### 15 **COMPARABLE GROUP**

16 **Q. How do you estimate the cost of common equity for VWID?**

17 A. VWID's common stock is not publicly traded. Accordingly, I employed a  
18 comparable group of utility companies with actively traded stock, to determine a  
19 market-required cost rate of common equity capital for VWID. Since no companies

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<sup>4</sup>The SDWA, or Safe Drinking Water Act, is the principal federal law in the United States intended to ensure safe drinking water for the public. Pursuant to the act, the EPA is required to set standards for drinking water quality and oversee all states, localities, and water suppliers who implement these standards. The CWA, or Clean Water Act, is the primary federal law in the United States governing water pollution. The CWA's objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

1 are perfectly identical to VWID, it is reasonable to determine the market-required  
2 cost rate for a comparable group of utility companies and adjust, to the extent  
3 necessary, for investment risk differences between VWID and the comparable  
4 group.

5 **Q. How did you select the comparable group used to determine the cost of**  
6 **common equity for VWID?**

7 A. I selected a comparable group of water utilities to determine the cost of common  
8 equity for VWID considering security analysts' coverage. Unlike the other utility  
9 industries, only a portion of the IOU water companies with publicly traded stock in  
10 the U.S. are followed by security analysts. Coverage by security analysts is  
11 important when determining a market required cost of common equity.  
12 Accordingly, security analysts' coverage was considered when selecting my  
13 comparable group. I selected my water utility comparable group, Water Group  
14 Followed by Analysts ("Water Group"), based upon a general criteria that includes:  
15 (1) all U.S. water utilities that are covered by security analysts as measured by the  
16 existence of sources of published projected five-year growth rates in earnings per  
17 share ("EPS"); (2) with a Standard Industrial Classification (SIC) of 4941 (i.e.,  
18 Water Supply Facilities and Infrastructure); (3) with a North American Industry  
19 Classification System (NAICS) of 221310 (i.e., Water Supply and Irrigation  
20 Systems); (4) are not the announced subject of an acquisition; (5) currently pay a  
21 common dividend and have not reduced their common dividend within the past four  
22 years; (6) have market value of common stock, the product of multiplying the  
23 closing stock price by the number of common shares outstanding, greater than

1 \$500.0 million; and (7) have a total enterprise, the sum of market value, preferred  
2 stock and total debt, greater than \$700.0 million.

3 It should be noted that the Water Group is also referred to as the Comparable  
4 Group and/or the Comparable Companies.<sup>5</sup> The names of the utilities that comprise  
5 the Comparable Group and their bond or credit ratings are listed in Table 1.

<u>Bond and Credit Ratings for The Water Group Followed by Analysts</u>	
	<u>S&amp;P Credit Rating</u>
<u>Water Group Followed by Analysts</u>	
American States Water Co	A+
American Water Works Co Inc	A
California Water Service Gp *	A+
Essential Utilities, Inc.	A
Middlesex Water Co	A
SJW Corp	A-
York Water Co	<u>A-</u>
Average	<u>A</u>
* - The A+ bond rating is that for California Water Service, Inc.	

6 **Table 1**

7 **Q. Why did you include not being the subject of an acquisition as a criteria for**  
8 **the Water Group?**

9 A. To begin with, there are only about nine investor owned water utility companies  
10 with publicly traded stock in the U.S., and some of these companies are very small.

<sup>5</sup>All of the Comparable Companies also provide some wastewater service.

1 As stated previously, the IOU water industry receives only limited exposure on  
2 Wall Street.

3 Additionally, the merger activity in the water industry can result in  
4 abnormal or “tainted” stock prices in terms of a DCF analysis because premiums  
5 are typically paid in corporate acquisitions. That is, when a tender offer is made  
6 for the purchase of all the outstanding stock of a company, the amount of that offer  
7 usually exceeds the price at which the stock was previously traded in the market.  
8 These large premiums are often reflected in the prices of other water utilities that  
9 are not currently the announced subject of an acquisition.<sup>6</sup>

## 10 CAPITAL STRUCTURE

11 **Q. What is required to develop an overall rate of return?**

12 A. The first step in developing an overall rate of return is the selection of capital  
13 structure ratios to be employed. Next, the cost rate for each capital component is  
14 determined. The overall rate of return is the product of weighting each capital  
15 component by its respective capital cost rate. This procedure results in VWID’s  
16 overall rate of return being weighted proportionately to the amount of capital and  
17 cost of capital of each type of capital.

18 **Q. Does VWID directly raise or issue its own debt capital?**

19 A. No, prospectively VWID does not raise its own capital; rather VUR is the sole  
20 source of VWID’s external capital.

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<sup>6</sup> Multiple publications mention these impacts including Research Magazine – April 2010, Barron’s – March 2001, Utility Business – June 2002, and Value Line Investment Survey – April 2013.

1 **Q. What capital structure ratios are appropriate to be used to develop VWID's**  
2 **overall rate of return?**

3 A. Consistent with settled rate setting principles, I believe it is necessary to evaluate  
4 VWID's current cost of capital based on VUR's June 30, 2022 capital structure,  
5 which includes 44.43% debt and 55.57% common equity as reflected in Schedule  
6 1. These ratios synchronize capitalization with rate base.

7 **Q. Is there a set of regulatory and financial principles used in deciding the**  
8 **appropriate capital structure to use for cost of capital purposes?**

9 A. Yes. There is a general set of regulatory and financial principles used in deciding  
10 the capital structure issue for cost of capital purposes that are consistent with both  
11 regulatory and financial theories:

12 1) It is generally preferable to use a utility's actual capital structure in  
13 developing its rate of return. However, in deciding whether a departure  
14 from this general preference is warranted in a particular case, it is  
15 appropriate to first look to the issue of whether the utility is a financially  
16 independent entity. In determining whether a utility is a financially  
17 independent entity or self-financing, it is important to look to whether the  
18 utility:

- 19 ● has its own bond rating;
- 20 ● provides its own debt financing; and
- 21 ● debt financing is not guaranteed by a parent company.

22 2) When a utility issues its own debt that is not guaranteed by the public or  
23 private parent and has its own bond rating, regulatory and financial

1 principles indicate to use a utility's own capital structure, unless the utility's  
2 capital structure is not representative of the utility's risk profile or where  
3 use of the actual capital structure would create atypical results. Regulatory  
4 and financial principles involve determining whether the actual capital  
5 structure is atypical when compared with the capital structures approved by  
6 the Commission for other utilities that operate in the same industry (*i.e.*,  
7 water utility, gas distribution utility, etc.), as well as those of the proxy  
8 utility companies that operate in the same industry.

9 3) For utility subsidiaries without publicly traded stock, the manner in which  
10 the utility obtains its debt financing determines whether it does its own  
11 financing. Public Utility Commissions generally determine if a subsidiary  
12 has financial, operational, and managerial relationships with its parent  
13 entity. However, having such ties typically has not led to use of a parent's  
14 capital structure for regulatory purposes, unless the subsidiary utility issues  
15 no long-term debt, issues long-term debt only to its parent, or issues long-  
16 term debt to outside investors only with the guarantee of its parent.

17 4) If a utility does not provide its own financing, Public Utility Commissions  
18 often look to another entity. Generally, Public Utility Commissions use the  
19 actual capital structure of the entity that does the financing for the regulated  
20 utility as long as it results in just and reasonable rates. This generally means  
21 using a parent company.

22 5) If the parent's capital structure is used, because it finances the operation of  
23 the utility, regulatory and financial principles require adjustments in the

1 utility's allowed rate of return on equity to adjust for risk differences, if any,  
2 between the parent and the regulated subsidiary. If, however, the financing  
3 entity's capital structure is inconsistent relative to the capital structures of  
4 the publicly-traded proxy companies used in the cost of equity analysis and  
5 capital structures approved for other utilities that operate in the same  
6 industry (*i.e.*, water utility, gas distribution utility, etc.), Public Utility  
7 Commissions employ a hypothetical capital structure.

8 Once the cost of equity for the proxy companies is determined, thereby  
9 establishing a range of reasonable returns, Public Utility Commissions should  
10 determine where to set the utility's return in that range based upon how the utility's  
11 risk compares with that of other utilities that operate in the same industry (*i.e.*, water  
12 utility, gas distribution utility, etc.). The risk analysis begins with the assumption  
13 that the utility generally falls within a broad range of average risk, absent highly  
14 unusual circumstances that indicate an inconsistently high or low risk as compared  
15 to other utilities that operate in the same industry (*i.e.*, water utility, gas distribution  
16 utility, etc.). Generally, financial risk is a function of the amount of debt in an  
17 entity's capital structure used for cost of capital purposes. When there is more debt,  
18 there is more risk.

19 **Q. How does your recommended capital structure compare with ratios employed**  
20 **by other investor-owned companies?**

21 A. The capital structure I recommend for VWID reflects a common equity ratio of  
22 55.6% which is similar to the range of the ratios employed by other investor-owned  
23 water companies as shown on pages 1 and 2 of Schedule 2. A comparison of my

1 recommendation for VWID’s capital structure ratios to those recently employed by  
2 the Comparison Group is shown in Table 2.

<u>Comparison of Capital Structure Ratios</u>		
	<u>VWID</u>	<u>Water Group</u>
	<u>At</u>	<u>At</u>
	<u>12/31/2022</u>	<u>3/31/2022</u>
Debt	44.4	51.9
Preferred Stock	0.0	0.0
Common Equity	<u>55.6</u>	<u>48.1</u>
	<u>100.0</u>	<u>100.0</u>

3

4

**Table 2**

5

VWID’s rate making capital structure ratios are reasonable based upon the  
6 above information.

6

7

**EMBEDDED COST RATE**

8

**Q. What embedded cost rates do you recommend be used to calculate VWID’s  
9 overall rate of return?**

9

10

A. Consistent with my recommended capital structure ratios I recommend using  
11 VUR’s embedded debt cost rate of 3.99% for VWID as reflected in Schedule 1.  
12 This embedded debt cost rate of 3.99% is detailed on the Company’s Exhibit No.  
13 6. The determination of an embedded cost rate is a relatively simple arithmetic  
14 exercise because a company has contracted for this capital for a specific period of  
15 time and at a specific cost, including issuance expenses and coupon rate.

15

1 **FINANCIAL ANALYSIS**

2 **Q. Have you reviewed historical financial information of VWID as part of your**  
3 **analysis?**

4 A. Yes. On page 1 of Schedule 3, I developed a five-year analysis, ending in 2021,  
5 detailing various financial ratios for VWID. On Schedule 4, I performed a similar  
6 five-year analysis for the Water Group. Schedule 5 reveals the results of operations  
7 for a large broad-based group of utilities known as the Standard & Poor's ("S&P")  
8 Utilities for the five years ending 2021. This information is useful in determining  
9 relative risk differences between different types of utilities.

10 Comparing VWID, the Comparable Group and the S&P Utilities' coverage  
11 of fixed charges and the various cash flow coverage proves that the Comparable  
12 Group has experienced a higher level of coverage than the S&P Utilities.  
13 Reviewing VWID's various cash flow coverages shows VWID has had similar but  
14 higher levels of coverage than the Comparable Group.

15 **Q. What do you conclude from the comparison of all the information shown on**  
16 **Schedules 3 through 5?**

17 A. Taken together, these comparisons show that VWID is exposed to risk that is  
18 similar in nature but greater in degree compared with the Comparable Groups. This  
19 is evident in particular when one considers the size and diversification of VWID,  
20 or lack thereof, as compared to the Comparable Companies. Moreover, the  
21 evidence from the various financial ratios show VWID's risks as being similar to  
22 the Comparable Companies' but less than the larger S&P Utilities. Prospectively,

1 VWID's future construction expenditures will place downward pressure on  
2 VWID's financial ratios as measured by interest coverage and cash generation.

3 **Q. What information is shown on Schedule 6?**

4 A. Schedule 6 lists the names, issuer credit ratings, common stock rankings, betas and  
5 market values of the companies contained in the Comparable Group and the S&P  
6 Utilities. As is evident from the information shown on Table 3, the Comparable  
7 Group and the S&P Utilities are similar to each other in risk.

	<u>S&amp;P Issuer Credit Rating</u>	<u>S&amp;P Quality Ranking</u>	<u>Value Line Beta</u>	<u>Recent Market Value (Mill \$)</u>	<u>Market Quartile Name</u>
Water Group	A	High (A)	0.77	3,221.423	Mid-Cap
S&P Utilities	BBB+	Average (B+)	0.88	25,849.646	Large-Cap

8 **Table 3**

9 The Water Group's average issuer credit ratings and common stock  
10 rankings are higher than the S&P Utilities. The average beta of the Comparable  
11 Group, 0.77, is less than the average beta of the S&P Utilities, 0.88. Beta is a  
12 measure of volatility or market risk; the higher the beta, the higher the market risk.  
13 The market values provide an indication of the relative size of each group. As a  
14 generalization, the smaller the average sizes of a group, the greater the risk.

15 Page 2 of Schedule 6 shows that VWID has generally experienced the  
16 lowest return on equity ("ROE") when compared to the Comparable Companies.  
17 Further, VWID's dividend payout ratio is lower than the Comparable Companies'  
18 dividend payout ratio.

1 S&P, the predominant bond rating agency, considers profit to be a  
2 fundamental determinant of credit protection. S&P states that a firm's profit level:

3 Whether generated by the regulated or deregulated side of the  
4 business, profitability is critical for utilities because of the need to  
5 fund investment-generating capacity, maintain access to external  
6 debt and equity capital, and make acquisitions. Profit potential and  
7 stability is a critical determinant of credit protection. A company  
8 that generates higher operating margins and returns on capital also  
9 has a greater ability to fund growth internally, attract capital  
10 externally, and withstand business adversity. Earnings power  
11 ultimately attests to the value of the company's assets, as well. In  
12 fact, a company's profit performance offers a litmus test of its  
13 fundamental health and competitive position.

14  
15 Accordingly, the conclusions about profitability should confirm the  
16 assessment of business risk, including the degree of advantage  
17 provided by the regulatory environment.<sup>7</sup>

18 **Q. What information is shown on Schedule 7?**

19 A. Schedule 7 reveals the capital intensity and capital recovery for VWID, the  
20 Comparable Companies and the S&P Utilities. Based upon the 2021 capital  
21 intensity ratio of plant to revenues, VWID (\$10.97) is more capital intensive as  
22 compared to the Water Group (\$6.60) and more than the S&P Utilities (\$4.78).  
23 From a purely financial point of view, based on current accounting practices, the  
24 rate of capital recovery or depreciation rate is an indication of risk because it  
25 represents cash flow and the return of an investment. VWID's average rate of  
26 capital recovery is higher than the Comparable Group's, suggesting less risk.

27 The return on equity and depreciation expense provides the margin for  
28 coverage of construction expenditures. For a utility company, depreciation expense

---

<sup>7</sup>Standard & Poor's Ratings Services, *Criteria, Utilities: Key Credit Factors: Business And Financial Risks In The Investor-Owned Utilities Industry*, Nov. 26, 2008, pgs. 8-9.

1 is the single largest generator of cash flow. From a financial analyst’s point of  
2 view, cash flow is the life blood of a utility company. Without it, a utility cannot  
3 access capital markets, it cannot construct plant, and therefore, it cannot provide  
4 service to its customers.

5 **RISK ANALYSIS**

6 **Q. Please explain the information shown on Schedule 8.**

7 A. Schedule 8 details the size difference between VWID and the Comparable Group.  
8 Company size is an indicator of business risk and is summarized in Table 4.

<u>Number of Times Larger Than the</u>	
<u>VWID</u>	
	<u>Water Group</u>
Capitalization	20.1x
Revenues	22.0x
Number of Customers	9.7x

9 **Table 4**

10 As shown in Table 4, VWID is much smaller than the Water Group. The size of  
11 a company affects risk. A smaller company requires the employment of  
12 proportionately less financial leverage (*i.e.*, debt and preferred capital) than a  
13 larger company to balance out investment risk. If investment risk is not balanced  
14 out, then a higher cost of capital is required.

15 **Q. Why is size significant to your analysis?**

16 A. The size of a company can be likened to ships on the ocean, since a large ship has  
17 a much better chance of weathering a storm than a small ship. The loss of a large  
18 customer will impact a small company much more than a large company because a

1 large customer of a small company usually accounts for a larger percentage of the  
2 small company's sales.

3 Moreover, a larger company is likely to have a more diverse geographic  
4 operation than a smaller company, which enables it to sustain earnings fluctuations  
5 caused by abnormal weather in one portion of its service territory. A larger  
6 company operating in more than one regulatory jurisdiction enjoys "regulatory  
7 diversification" which makes it less susceptible to adverse regulatory developments  
8 or eminent domain claims in any single jurisdiction. Further, a larger company  
9 with a more diverse customer base is less susceptible to downturns associated with  
10 regional economic conditions than a small company. For example, on average, the  
11 average company in the Water Group provides water/sewer service in multiple  
12 states for about 968,000 customers. The average population of the communities  
13 served by the average company in the Water Group is about 3.5 million people.  
14 These wide-ranging operations provide the Water Group substantial geographic,  
15 economic, regulatory, weather and customer diversification. VWID provides  
16 regulated water service to about 100,000 customers (2021). The concentration of  
17 VWID's business in southwestern Idaho makes it very susceptible to any adverse  
18 development in local regulatory, economic, demographic, competitive and weather  
19 conditions.

20 Further, S&P, a major credit rating agency, recognizes the importance that  
21 diversification and size play in credit ratings. S&P believes some of the critical  
22 factors include: regional and cross-border market diversification (mitigates

1 economic, demographic, and political risk concentration); customer diversification;  
2 and regulatory regime diversification.<sup>8</sup>

3 The size of a company can be a barrier to fluid access to capital markets  
4 (*i.e.*, liquidity risk). Investors require compensation for the lack of marketability  
5 and liquidity of their investments. If no compensation is provided, then investors,  
6 or at least sophisticated investors, shy away.

7 **Q. Is the impact of size commonly recognized?**

8 A. Yes, the National Association of Regulatory Utility Commissioners (“NARUC”),  
9 as well as most good financial texts, recognizes that size affects relative business  
10 risk. Liquidity risk and the existence of the small firm effect relating to business  
11 risk of small firms are well-documented in financial literature.<sup>9</sup> Investors’  
12 expectations reflect the highly-publicized existence of the small firm effect. For  
13 example, many mutual funds classify their investment strategy as small  
14 capitalization in an attempt to profit from the existence of the small firm effect.

15 As previously discussed, S&P recognizes that size plays a role in credit  
16 ratings.

17 Standard & Poor’s has no minimum size criterion for any  
18 given rating level. However, size turns out to be  
19 significantly correlated to ratings. The reason: size often  
20 provides a measure of diversification, and/or affects  
21 competitive position. . . . Small companies are, almost by  
22 definition, more concentrated in terms of product, number of  
23 customers, or geography. In effect, they lack some elements  
24 of diversification that can benefit larger companies. To the  
25 extent that markets and regional economies change, a

---

<sup>8</sup>Standard & Poor’s, Corporate Ratings Criteria, Utilities: Key Credit Factors: Business and Financial Risks in The Investor-Owned Utilities Industry, Nov. 26, 2008.

<sup>9</sup>Banz, Rolf, W. "The Relationship Between Return and Market Value of Common Stocks," Journal of Financial Economics, 9:3-18 1981. For subsequent studies see Fama and French, etc.

1 broader scope of business affords protection. This  
2 consideration is balanced against the performance and  
3 prospects of a given business. . . . In addition, lack of  
4 financial flexibility is usually an important negative factor in  
5 the case of very small companies. Adverse developments  
6 that would simply be a setback for companies with greater  
7 resources could spell the end for companies with limited  
8 access to funds.<sup>10</sup>  
9

10 As shown on Schedule 9, size plays a role in the composition of investors, and  
11 hence liquidity. In 2021, about 112% of the Water Group's shares traded while the  
12 larger companies comprising the S&P Utilities had a much higher trading volume  
13 of 149%. Insiders<sup>11</sup> hold more than eight times more, as a percent to total, of the  
14 Water Group's shares than the S&P Utilities. Currently, only about 71% of the  
15 Water Group shares are held by institutions<sup>12</sup> while the larger companies  
16 comprising the S&P Utilities had much higher institutional holdings of 80%. Due  
17 to small size and less interest by financial institutions, fewer security analysts  
18 follow the Comparable Group and none follow VWID.

19 The lack of trading activity may affect the cost of equity estimates for small  
20 entities such as VWID and the Water Group. When stock prices do not change  
21 because of inactive trading activity, estimates of dividend yield for use in a dividend  
22 cash flow model and beta estimates for use in the capital asset pricing model are  
23 affected. In a stock market that is generally up, the beta estimates for the  
24 Comparable Companies may be understated due to thin trading.

---

<sup>10</sup>*Standard & Poor's, Corporate Ratings Criteria 2006*; pg. 22.

<sup>11</sup>An insider is a director or an officer who has a policy-making role or a person who is directly or indirectly the beneficial owner of more than 10% of a certain company's stock.

<sup>12</sup>Institutional holders are those investment managers having a fair market value of equity assets under management of \$100 million or more. Certain banks, insurance companies, investment advisers, investment companies, foundations and pension funds are included in this category.

1 **Q. Do VWID and the Comparable Companies have similar operating risks?**

2 A. Yes. From an operations standpoint, VWID and the Comparable Companies have  
3 similar risks and are indistinguishable. Both are required to meet Clean Water Act  
4 and Safe Drinking Water Act requirements and are also required to provide safe  
5 and reliable services to their customers and comply with Commission regulations.

6 **Q. Is there any single measure that best shows investment risk from a common  
7 stockholder's perspective?**

8 A. No. However, from a creditor's viewpoint, the best measure of investment risk is  
9 debt rating. The debt rating process generally provides a good measure of  
10 investment risk for common stockholders because the factors considered in the debt  
11 rating process are usually relevant factors that a common stock investor would  
12 consider in assessing the risk of an investment. Credit rating agencies, such as  
13 S&P, assess the risk of an investment into two categories based on: fundamental  
14 business analysis; and financial analysis.<sup>13</sup> The business risk analysis includes  
15 assessing: Country risk; industry risk; competitive position; and profitability/peer  
16 group comparisons. The financial risk analysis includes assessing: accounting;  
17 financial governance and policies/risk tolerance; cash flow adequacy; capital  
18 structure/asset protection; and liquidity/short-term factors.

19 **Q. What is the bond rating of VWID and the Comparable Group?**

20 A. Page 1 of Schedule 10 shows the average bond/credit rating Comparable Group.  
21 The Comparable Group has an A credit profile and VWID does not have bonds

---

<sup>13</sup>*Standard & Poor's, Corporate Ratings Criteria*, General: Criteria Methodology: Business Risk/Financial Risk Matrix Expanded, May 27, 2009 and *Standard & Poor's, Criteria Corporates General: Corporate Methodology*, November 19, 2013.

1 rated. VUR has an A credit profile. The major bond rating/credit rating agencies  
2 append modifiers, such as +, - for S&P and 1, 2, and 3 for Moody's Investors  
3 Service ("Moody's") to each generic rating classification. For example, an "A"  
4 credit profile is comprised of three subsets such as A+, A, A- for S&P or A1, A2  
5 or A3 for Moody's. The modifier of either "+" or "1" indicates that the obligation  
6 ranks in the higher end of its generic rating category; the modifier "2" indicates a  
7 mid-range ranking; and the modifier of "-" or "3" indicates a ranking in the lower  
8 end of that generic rating category.

9 S&P and Moody's publish financial benchmark criteria necessary to obtain  
10 a bond rating for different types of utilities. As a generalization, the higher the  
11 perceived business risk, the more stringent the financial criteria so the sum of the  
12 two, business risk and financial criteria, remains the same.

13 **Q. What are some financial benchmarks applied by credit rating agencies for**  
14 **rating public utility debt?**

15 A. S&P describes their range of financial benchmarks as

16 Risk-adjusted ratio guidelines depict the role that financial ratios  
17 play in Standard & Poor's rating process, since financial ratios are  
18 viewed in the context of a firm's business risk. A company with a  
19 stronger competitive position, more favorable business prospects,  
20 and more predictable cash flows can afford to undertake added  
21 financial risk while maintaining the same credit rating. The  
22 guidelines displayed in the matrices make explicit the linkage  
23 between financial ratios and levels of business risk.<sup>14</sup>

24 **Q. What other information is shown on Schedule 10?**

---

<sup>14</sup>Standard & Poor's Corporate Rating Criteria, 2000.

1 A. Page 2 of Schedule 10 summarizes the application of S&P's and Moody's measures  
2 of financial risk for VWID and the Comparable Group. S&P's and Moody's  
3 measures of financial risk are broader than the traditional measure of financial risk  
4 (i.e., leverage). Besides reviewing amounts of leverage employed, S&P and  
5 Moody's also focus on earnings protection and cash flow adequacy.

6 As is evident from the information shown on page 2 of Schedule 10, for the  
7 five years ending in 2021 and for the year 2021, VWID's cash flow adequacy ratios  
8 were generally higher than the Comparable Companies in most instances.  
9 Comparing the VWID and the Water Group's measures of cash flow adequacy  
10 shows that the Water Group has experienced a lower level of cash flow adequacy  
11 than VWID, indicating that VWID is a lower investment risk than the Water Group.  
12 Prospectively, based upon the Company's construction program, the Company's  
13 ratios are likely to be strained. Based solely upon VWID's historical ratios, it is  
14 my opinion that VWID's credit profile is similar to the Comparable Companies.

15 Further, based solely upon VWID's size, it is my opinion that VWID's  
16 credit profile is lower than the Comparable Groups'. Based on VWID's small size,  
17 it is highly likely that VWID's credit profile is below BBB (i.e., BB). An analysis  
18 of corporate credit ratings, shown on page 4 of Schedule 10, indicates that there is  
19 an 90% (100%-0%-1%-6%-3%=90%) chance that VWID's credit profile falls  
20 below BBB based on their small size alone. As S&P has stated, size is significantly  
21 correlated to credit ratings.

22 An analysis of corporate credit ratings, summarized on page 4 of Schedule  
23 10, found The Berkshire Gas Company ("Berkshire") to be the smallest utility with

1 a credit rating. Berkshire's credit rating is only A- despite having a capitalization  
2 comprised of about \$198 million and a common equity ratio of 70%. According to  
3 this analysis of corporate credit ratings, the smallest water utility is The York Water  
4 Company ("York"). York's credit rating is only A- notwithstanding having a  
5 capitalization of about \$301 million and a common equity ratio of 51%.

6 **Q. Have you reviewed the Company's large construction program?**

7 A. Yes, the Company estimates their construction program to total \$260.8 million (net  
8 of advances and contributions) from 2022 through 2026. At year end 2021 the  
9 Company's total capital outstanding was \$255.8 million indicating the need for a  
10 102% increase ( $\$260.8 \text{ million} \div \$255.8 \text{ million}$ ) in capital through 2026.

11 **Q. How does the magnitude of the Company's large construction program  
12 compare to the Comparable Group's construction program?**

13 A. The Company is forecasted to require 102% of additional capital to finance their  
14 construction program while the Comparable Group is projected by Value Line to  
15 require 58% of additional capital to finance their construction programs.  
16 Accordingly, VWID's capital requirements are about 75% greater than the  
17 Comparable Group's through 2026 indicating more risk for VWID.

18 In order to compete with the Comparable Group for capital, in the future, it  
19 will be necessary for VWID to achieve higher returns on equity, and increased cash  
20 flow just to maintain a similar credit quality.

21 S&P has stated:

22 ... low authorized returns may affect the industry's ability to attract  
23 necessary capital to develop new water supplies and upgrade the  
24 quality of existing supplies . . . Traditional ratemaking policy has not  
25 provided sufficient credit support during the construction cycle of the

1 electric industry over the past 15 years. To avoid a repeat in the water  
2 industry, regulators must be aware of the increased challenges the  
3 industry faces.<sup>15</sup>

4 Investors will not provide the equity capital necessary for increasing the amount of  
5 common equity in a capital structure unless the regulatory authority allows an  
6 adequate rate of return on the equity.<sup>16</sup>

7 **Q. What do you conclude from the various measures of investment risk**  
8 **information you have testified to?**

---

<sup>15</sup>Standard & Poor's CreditWeek, May 25, 1992 (emphasis added).

<sup>16</sup>National Association of Regulatory Utility Commissioners, loc. cit.

1 A. A summary of my conclusions regarding the risk analyses discussed previously is  
 2 shown in Table 5. Overall, the information summarized in Table 5 indicates that  
 3 VWID has similar investment risk as the Water Group.

Summary of Risk Analyses		
	VWID	Water Group Followed by Analysts
1. Business Risk:		
2. Country Risk	Similar Risk Level	
3. Industry Risk	Similar Risk Level	
4. Competitive Position	Similar Risk Level	
5. Profitability/Peer Group Comparisons	Higher Risk Level	
6. Capitalization Ratios & Financial Risk (Leverage)*		Higher Risk Level
7. Debt Cost Rate*	Higher Risk Level	
8. Relative Size:		
9. Regulatory Diversification	Higher Risk Level	
10. Economic Diversification	Higher Risk Level	
11. Demographic Diversification	Higher Risk Level	
12. Diversification of Weather Conditions	Higher Risk Level	
13. Customer Concentration of Revenues	Higher Risk Level	
14. Capital Intensity	Higher Risk Level	
15. Capital Recovery		Higher Risk Level
16. Lower Liquidity:		
17. Institutional Holdings	Higher Risk Level	
18. Insider Holdings	Higher Risk Level	
19. Percentage of Shares Traded	Higher Risk Level	
20. Required To Meet Clean Water Acts and Safe Drinking Water Act	Similar Risk Level	
21. Credit Market Financial Risk Metrics		Higher Risk Level
22. Cash Flow Adequacy		Higher Risk Level
23. Credit Rating / Credit Profile	Similar Risk Level	
* - Based on recommended capital structure for rate making purposes. Comment: The terms "Similar Level " indicates same amount of risk and the terms "Higher Level " indicates greater risk.		

4 **Table 5**  
 5 **CAPITAL COST RATES**

6 **Q. What information is shown on Schedule 11?**

7 A. Schedule 11 reviews long-term and short-term interest rate trends. Long-term and  
 8 short-term interest rate trends are reviewed to ascertain the “sub-flooring” or

1 “basement” upon which the Comparable Companies’ common equity market  
2 capitalization rate is built. Based upon the settled yields implied in the Treasury  
3 Bond future contracts and the long-term and recent trends in spreads between long-  
4 term government bonds and A-rated public utility bonds available to me at the time  
5 Schedule 11 was prepared, I conclude that the market believes that if the  
6 Comparable Companies issued new long-term bonds near term, they would be  
7 priced to yield about 4.7% based upon a credit profile of “A.” Further, it is  
8 reasonable to conclude the market anticipates that long-term government bonds will  
9 be priced to yield about 3.2%, near term.

10 Since October 2008, the Federal Reserve has been monetizing US Treasury  
11 debt to artificially suppress interest rates through expansionary money policies (i.e.,  
12 quantitative easing). The Federal Reserve, with effectively unlimited money at its  
13 disposal, intervenes at any time it wishes, in whatever volume it wishes, to make  
14 sure that Treasury bond and bill prices and yields are exactly what the Federal  
15 Reserve wants them to be. The US Treasury bond market, and mortgage market,  
16 has become an artificial market with no connection to objective risk and interest  
17 rates.

18 In August 2011, the Federal Reserve began “Operation Twist.” Under  
19 “Operation Twist,” the Federal Reserve began buying \$400 billion of long-dated or  
20 long-term US Treasury debt, financed by selling short-term US Treasury debt with  
21 three years to go or less. The goal of “Operation Twist” was to try to drive long-  
22 term rates lower, which the Federal Reserve thought would help the mortgage  
23 market. This process has created an artificial demand for the US Treasury debt

1 themselves, and easily drives interest rates artificially lower and deceives investors  
2 into believing US Treasury debt is safe with wide demand. This has resulted in the  
3 entire capital system being impacted by the Federal Reserve's distortion of the price  
4 of risk.

5 In the real world of economics, the borrower pays an interest rate to  
6 a lender, who makes money (interest) by taking on the risk of  
7 lending and deferring gratification. The lender is willing to not  
8 spend his money now. In a free market economy, interest rates are  
9 essentially a price put on money, and they reflect the time preference  
10 of people. Higher interest rates reflect a high demand for borrowing  
11 and lower savings. But the higher rates automatically correct this  
12 situation by encouraging savings and discouraging borrowing.  
13 Lower interest rates will work the opposite way. When the  
14 government/central bank tampers with interest rates, savings and  
15 lending are distorted, and resources are misallocated. This is evident  
16 in looking back on the housing bubble. The artificially low interest  
17 rates signaled that there was a high amount of savings. But it was a  
18 false signal. There was also a signal for people to borrow more.  
19 Again, it was a false signal. As these false signals were revealed,  
20 the housing boom turned into a bust.<sup>17</sup>  
21

22 More recently, in response to COVID-19, the Federal Reserve provided  
23 monetary and fiscal stimulus to increase liquidity in the form of new fiscal stimulus  
24 programs and rate cuts. "For context, new fiscal stimulus and total fiscal deficits in  
25 the US are roughly double the levels seen in 2008-2009, and the US fiscal deficit  
26 we project for 2020 of 15%-18% is only matched by deficits seen at the height of  
27 WWII in 1942-1943."<sup>18</sup> The combined result of these actions by the Federal  
28 Reserve and investors' flight to quality resulted in artificial and historically low  
29 risk-free rates as measured by the 30-year treasury bond yield.

---

<sup>17</sup>Pike, Geoffrey "The Threat of Negative Interest Rates," Wealth Daily, May 30, 2014,  
<http://www.wealthdaily.com/articles/the-threat-of-negative-interest-rates/5185>, (6/03/2014)

<sup>18</sup> <https://www.jpmorgan.com/jmpdf/1320748588999.pdf>, (5/29/20).

1 **Q. What are some of the results from the FED’s monetary and fiscal stimulus?**

2 A. The FED’s quantitative easing of expanding its own balance sheet, by buying  
3 bonds, and therefore injecting money into the economy, floods the economy with  
4 additional cash, keeping interest rates low and impacts equity markets.  
5 Additionally, the FED’s uninterrupted and aggressive monetary expansion policy  
6 necessarily puts pressure on inflation. The FED’s monetary and fiscal stimulus,  
7 which included artificial and historically low interest rates, have produced some of  
8 the highest inflation rates in the last 40 years according to CNBC.

9 Inflation rose 9.1% in June, even more than expected, as consumer  
10 pressures intensify.

11  
12 Shoppers paid sharply higher prices for a variety of goods in June as  
13 inflation kept its hold on a slowing U.S. economy, the Bureau of  
14 Labor Statistics reported Wednesday.

15  
16 The consumer price index, a broad measure of everyday goods and  
17 services related to the cost of living, soared 9.1% from a year ago,  
18 above the 8.8% Dow Jones estimate. That marked the fastest pace  
19 for inflation going back to November 1981.<sup>19</sup>  
20

21 In response to the recent level of inflation rates, the Federal Reserve  
22 announced its goal of increasing interest rates as high as needed to get inflation  
23 back to 2%.

24 Americans are headed for a painful period of slow economic growth  
25 and possibly rising joblessness as the Federal Reserve raises interest  
26 rates to fight high inflation, U.S. central bank chief Jerome Powell  
27 warned on Friday in his bluntest language yet about what is in store  
28 for the world's biggest economy.

29  
30 In a speech kicking off the Jackson Hole central banking conference  
31 in Wyoming, Powell said the Fed will raise rates as high as needed

---

<sup>19</sup> Cox, J. (2022, July 13). Inflation rose 9.1% in June, even more than expected, as consumer pressures intensify. *CNBC*. Retrieved from <https://www.cnbc.com/2022/07/13/inflation-rose-9point1percent-in-june-even-more-than-expected-as-price-pressures-intensify.html>, (7/13/22).

1 to restrict growth, and would keep them there "for some time" to  
2 bring down inflation that is running at more than three times the  
3 Fed's 2% goal.

4  
5 "Reducing inflation is likely to require a sustained period of below-  
6 trend growth," Powell said. "While higher interest rates, slower  
7 growth, and softer labor market conditions will bring down  
8 inflation, they will also bring some pain to households and  
9 businesses. These are the unfortunate costs of reducing inflation.  
10 But a failure to restore price stability would mean far greater pain."

11  
12 As that pain increases, Powell said, people should not expect the Fed  
13 to dial back its monetary policy quickly until the inflation problem  
14 is fixed.<sup>20</sup>  
15

16 Prospectively the capital markets will be affected by the upcoming  
17 unprecedented large Treasury financings coupled with increased interest rates.  
18 Investors provide capital based upon risk and return opportunities and investors will  
19 not provide common equity capital when higher risk-adjusted returns are available.

20 **Q. Are there other indications that forecasters believe capital costs rates may**  
21 **increase substantially from their current levels?**

22 A. Yes, consensus forecasts show that interest rates are expected to increase  
23 substantially in the next few years. Table 6 shows the forecasted increase in interest  
24 rates published in the June 1, 2022 Blue Chip Consensus Forecasts for the period  
25 2023 to 2025. As shown in Table 6, consensus forecasts show interest rates are  
26 expected to increase over 70 basis points from current levels. If interest rates were  
27 to increase as predicted, investors will not provide common equity capital when  
28 higher risk-adjusted returns are available.

---

<sup>20</sup> Schneider, H and Saphir, A (2022, August 26). Powell sees pain ahead as Fed sticks to the fast lane to beat inflation. *REUTERS*. Retrieved from <https://www.reuters.com/markets/us/feds-powell-pain-tight-policy-slow-growth-needed-for-some-time-beat-inflation-2022-08-26/>, (8/27/22).

Blue Chip Financial Forecasts Long-Range Survey 8/1/22

	Latest Qtr	Consensus Forecasts		
	<u>8/1/22</u>	<u>5/1/22 Long-Term Forecasts</u>		
	<u>2Q 2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
<u>Interest Rates</u>				
Prime Rate	3.94	6.08	5.87	5.65
3-mo. Treasury Bills	1.10	3.03	2.79	2.55
10 Year Notes	2.93	3.52	3.45	3.43
30 Year Notes	3.04	3.81	3.80	3.77
Aaa Corporate Bond Yield	4.30	5.03	4.99	4.89
Baa Corporate Bond Yield	4.97	5.98	5.93	5.79

1

2

**COMMON EQUITY COST RATE ESTIMATE**

3

**Q. What is the best method of estimating common equity cost rates?**

4

A. There is no single method (model) suitable for estimating the cost rate for common equity. While a single investor may rely solely upon one model in evaluating investment opportunities, other investors rely on different models. Most sophisticated investors who use an equity valuation model rely on many models in evaluating their common equity investment alternatives. Therefore, the average price of an equity security reflects the results of the application of many equity models used by investors in determining their investment decisions.

5

6

7

8

9

10

11

The application of any single model to estimate common equity cost rates is not appropriate because the security price for which the equity cost rate is being estimated reflects the application of many models used in the valuation of the investment. That is, the price of any security reflects the collective application of many models. Accordingly, if only one model is used to estimate common equity

12

13

14

15

1 cost rates, that cost rate will most likely be different from the collective market's  
2 cost rates because the collective valuation in the market reflects more than one  
3 method.

4 Noted financial texts, investor organizations and professional societies all  
5 endorse the use of more than one valuation method. "We endorse the dividend  
6 discount model, particularly when used for establishing companies with consistent  
7 earnings power and when used along with other valuation models. It is our view  
8 that, in any case, an investor should employ more than one model."<sup>21</sup>

9 The American Association of Individual Investors state, "No one area of  
10 investment is suitable for all investors and no single method of evaluating  
11 investment opportunities has been proven successful all of the time."<sup>22</sup>

12 In their study guide, the National Society of Rate of Return Analysts state,  
13 "No cost of equity model or other concept is recommended or emphasized, nor is  
14 any procedure for employing any model recommended . . . it remains important to  
15 recognize that alternative methods exist and have merit in cost of capital estimation.  
16 To this end, analysts should be knowledgeable of a broad spectrum of cost of capital  
17 techniques and issues."<sup>23</sup>

18 Several different models should be employed to measure accurately the  
19 market-required cost of equity reflected in the price of stock. Therefore, I used

---

<sup>21</sup>Sidney Cottle, Roger F. Murray and Frank E. Block, Graham and Dodd's Securities Analysis 5th Edition, McGraw-Hill, Inc., 1988, p. 568 (emphasis added).

<sup>22</sup>Editorial Policy, AAII Journal, American Association of Individual Investors, Volume 18, No. 1, January 1996, p. 1.

<sup>23</sup>David C. Parcell, The Cost of Capital - A Practitioners Guide, National Society of Rate of Return Analysts, 1995 Edition.

1 three recognized methods: the DCF shown on Schedule 12, the CAPM shown on  
2 Schedule 17, and the RP shown on Schedule 18.

### 3 **DISCOUNTED CASH FLOW**

4 **Q. Please explain the discounted cash flow model.**

5 A. The DCF is based upon the assumption that the price of a share of stock is equal to  
6 a future stream of cash flows to which the holder is entitled. The stream of cash  
7 flows is discounted at the investor-required cost rate (cost of capital).

8 Although the traditional DCF assumes a stream of cash flow into perpetuity,  
9 a termination, or sale price can be calculated at any point in time. Therefore, the  
10 return rate to the stockholder consists of cash flow (earnings or dividends) received  
11 and the change in the price of a share of stock. The cost of equity is defined as:

12 ...the minimum rate of return that must be earned on equity  
13 finance and investments to keep the value of existing  
14 common equity unchanged. This return rate is the rate of  
15 return that investors expect to receive on the Company's  
16 common stock . . . the dividend yield plus the capital gains  
17 yield . . . <sup>24</sup>

18  
19 **Q. Please explain how you calculated your dividend yield in the DCF shown on**  
20 **Schedule 12.**

21 A. As shown on page 1 of Schedule 12, I used the average dividend yield of 1.8% for  
22 the Water Group. The individual dividend yields are shown on page 2 of Schedule  
23 12 and are based upon the most recent months' yield, July 2022, and the twelve-  
24 month average yield, ending July 2022. The second input to a market DCF  
25 calculation is the determination of an appropriate share price growth rate.

---

<sup>24</sup>J. Fred Weston and Eugene F. Brigham, Essentials of Managerial Finance, 3rd ed. (The Dryden Press), 1974, p. 504 (emphasis added).

1 **Q. What sources of growth rates did you review?**

2 A. I reviewed both historical and projected growth rates. Schedule 13 shows the array  
3 of projected growth rates for the Comparable Companies that are published.  
4 Specific historical growth rates are shown for informational purposes because I  
5 believe the meaningful historical growth rates are already considered when analysts  
6 arrive at their projected growth rates. Nonetheless, some investors may still rely on  
7 historical growth rates.

8 **Q. Please explain the sources of the projected growth rates shown on Schedule 13.**

9 A. I relied upon four sources for projected growth rates, First Call, S&P, Zacks  
10 Investment Research and Value Line.<sup>25</sup>

11 **Q. Did you review any other growth rates besides those shown on Schedule 13?**

12 A. Yes. I reviewed EPS growth rates reflecting changes in return rates on book  
13 common equity (ROE) over time. I summarized recent ROEs on page 1 of  
14 Schedule 14, and compared those to the Water Group's higher levels projected to  
15 be achieved by Value Line, as shown on page 2 of Schedule 14. ROEs increase  
16 when EPS grows at much higher/faster rates than book value.

17 I also reviewed industry specific average projected growth rates that are  
18 published by Zacks for the industries in which the Comparable Companies operate.  
19 According to Zacks, the Water Group's industry is projected to have EPS growth  
20 rates that average 10.4% over the next five years.

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<sup>25</sup>With the exception of Value Line, the earnings growth rate projections are consensus estimates five-year EPS estimates. These consensus estimates are compiled from more than 1,700 financial analysts and brokerage firms nationwide. It should be noted that none of the consensus forecasts provides projected DPS estimates. Value Line publishes projected Cash flow, EPS and DPS five-year growth projections as well.

1 **Q. What do you conclude from the growth rates you have reviewed?**

2 A. Table 7 summarizes some of the various growth rates reviewed.

<u>Summary of Growth Rates</u>	
	<u>Water Group</u>
Projected 5 Year Growth in EPS	6.6
Actual 5 Year Growth in EPS	6.2
Projected 5 Year Growth in DPS	7.1
Projected 5 Year Growth in EPS for the industry	10.4

3 **Table 7**

4 Academic studies suggest that growth rate conclusions should be tested for  
5 reasonableness against long-term interest rate levels. Further, the minimum growth  
6 rate must at least exceed expected inflation levels. Otherwise, investors would  
7 experience decreases in the purchasing power of their investment. Finally, the  
8 combined result of adding the growth rate to the market value dividend yield must  
9 provide a sufficient margin over yields of public utility debt.

10 **Q. What method did you use to arrive at your growth rate conclusion?**

11 A. No single method is necessarily the correct method of estimating share value  
12 growth. It is reasonable to assume that investors anticipate that the Water Group's  
13 current ROE will expand to higher levels. The published historical earnings growth  
14 rates for the Water Group averages 6.2%. Because there is not necessarily any  
15 single means of estimating share value growth, I considered all of this information  
16 in determining a growth rate conclusion for the Comparable Companies.

17 Moreover, while some rate of return practitioners would advocate that  
18 mathematical precision should be followed when selecting a growth rate, the fact

1 is that investors do not behave in the same manner when establishing the market  
2 price for a stock. Rather, investors consider both company-specific variables and  
3 overall market sentiment such as inflation rates, interest rates and economic  
4 conditions when formulating their capital gains expectations. This is especially  
5 true when one considers the relatively meaningless negative growth rates. That is,  
6 use of a negative growth rate in a DCF implies that investors invest with the  
7 expectation of losing money.

8 The range of growth rates previously summarized supports the  
9 reasonableness of an expected 6.6% growth rate for the Water Group based  
10 primarily on the projected five-year growth rates and considering the Water  
11 Group's industry projected EPS growth rates of 10.4%. Like the projected growth  
12 rates, this investor-expected growth rate of 6.6% is based on a survey of projected  
13 and historical growth rates published by established entities, including First Call,  
14 S&P, Zacks Investment Research and Value Line. Use of information from these  
15 unbiased professional organizations provides an objective estimation of investor's  
16 expectations of growth. Based on the aforesaid, all growth rates for the Comparison  
17 Companies have been considered and have been given weight in determining a  
18 6.6% growth rate for the Water Group.

19 **Q. What is your market value DCF estimate for the Comparable Companies?**

20 A. The market value DCF cost rate estimate for the Water Group is 8.5%, as detailed  
21 on page 1 of Schedule 12.

1 **Q. Are there other considerations that should be taken into account in reviewing**  
2 **a market value capitalization DCF cost rate estimate?**

3 A. Yes. It should be noted that although I recommend specific dividend yields for the  
4 Comparable Group, I recommend that less weight be given to the resultant market  
5 value DCF cost rate due to the market's current market capitalization ratios and the  
6 impact that the market-to-book ratio has on the DCF results. The Comparable  
7 Companies' current market-to-book ratios of 339% and low dividend yields are  
8 being affected by the aforementioned policy of the Federal Reserve that has resulted  
9 in the mispricing of capital due to artificial interest rates, not DCF fundamentals.

10 Although the DCF cost for common equity appears to be based upon  
11 mathematical precision, the derived result does not reflect the reality of the  
12 marketplace since the model proceeds from unconnected assumptions. The  
13 traditional DCF derived cost rate for common equity will continuously understate  
14 or overstate investors' return requirements as long as stock prices continually sell  
15 above or below book value. A traditional DCF model implicitly assumes that stock  
16 price will be driven to book value over time. However, such a proposition is not  
17 rational when viewed in the context of an investor purchasing stock above book  
18 value. It is not rational to assume that an investor would expect share price to  
19 decrease 71% ( $100\% \div 339\% = 29\% - 100\% = 71\%$ ) in value to equal book value.

20 Utility stocks do not trade in a vacuum. Utility stock prices, whether they  
21 are above or below book value, reflect worldwide market sentiment and are not  
22 reflective of only one element.

1 **Q. What do you mean by your statement that utility stocks are not traded in a**  
2 **vacuum?**

3 A. Utility stocks cannot be viewed solely by themselves. They must be viewed in  
4 the context of the market environment. Table 8 summarizes recent market-to-  
5 book ratios (“M/B”) for well-known measures of market value reported in the  
6 August 8, 2022 issue of Barron’s and the Water Group’s average M/B as shown  
7 on page 1 of Schedule 14.

	<u>M/B</u> <u>Ratios(%)</u>
Dow Jones Industrials	501
Dow Jones Transportation	494
Dow Jones Utilities	258
S&P 500	411
S&P Industrials	556
Vs.	
Water Group	339

8 **Table 8**

9 Utility stock investors view their investment decisions compared with other  
10 investment alternatives, including those of the various market measures shown in  
11 Table 8.

12 **Q. How does a traditional DCF implicitly assume that market price will equal**  
13 **book value?**

14 A. Under traditional DCF theory, price will equal book value (M/B=1.00) only when  
15 a company is earning its cost of capital. Traditional DCF theory maintains that a  
16 company is under-earning its cost of capital when the market price is below book  
17 value (M/B<1.00), while a company over-earning its cost of capital will have a

1 market price above its book value ( $M/B > 1.00$ ). If this were true, it would imply  
2 that the capitalistic free-market is not efficient because the overwhelming majority  
3 of stocks would currently be earning more than their cost of capital. Table 8 shows  
4 that most stocks sell at an M/B that is greater than 1.0.

5 **Q. Please explain why such a phenomenon would show that the capitalistic free-**  
6 **market is not efficient.**

7 A. Historically, the S&P 500, which represented the largest 500 companies listed on  
8 exchanges in the United States, have not sold at an M/B of 1.0 during the last 24-  
9 years, 1999-2022. Based upon the traditional DCF assumption, which suggests that  
10 companies with M/Bs greater than 1.0 earn more than their cost of capital, this data  
11 would suggest that the S&P 500 companies have earned more than their cost of  
12 capital while competing in a competitive environment over the 24-year period. In  
13 a competitive market, new companies would continually enter the market up to the  
14 point that the earnings rate was at least equal to their cost of capital.

15 During this period the S&P 500 sold at an average M/B of 306% while  
16 experiencing a ROE of 18.0% over a period in which interest rates averaged 3.9%.  
17 It is important to note that during this period the S&P 500 M/B ranged from 192%  
18 to 490%, all while competing in competitive markets.

19 **Q. What is the significance of S&P 500 m/b and the cost of capital for a water**  
20 **utility?**

21 A. As stated previously, utility stocks do not trade in a vacuum. They must compete  
22 for capital with other firms including the S&P 500 stocks. Over time, there has  
23 been a relationship between M/Bs of S&P 500 stocks and utility stocks. Although

1 S&P 500 stocks have generally sold at a higher multiple of book value than utility  
2 stocks, both have tracked in similar directions. Because utility and S&P 500 stock  
3 prices relative to book values move in similar directions, it is irrational to conclude  
4 that stock prices that are different from book value, either higher or lower, suggests  
5 that a firm is over-or under-earning its cost of capital when competitive, free-  
6 markets exist.

7 **Q. Does the market value DCF provide a reasonable estimate of the Water**  
8 **Group's common equity cost rate?**

9 A. No, the DCF only provides a reasonable estimate of the Comparable Group's  
10 common equity cost rate when their market price and book value are similar  
11 (M/B=100%).<sup>26</sup> A DCF will overstate a common equity cost rate when M/Bs are  
12 below 100% and understate when they are above 100%. Since the Comparable  
13 Group's current M/Bs average 339%, the DCF understates their common equity  
14 cost rate. Schedule 15 provides a numerical illustration of the impact of M/Bs on  
15 investors' market returns and DCF returns. The reason that DCF understates or  
16 overstates investors' return requirements depending upon M/B levels is because a  
17 DCF-derived equity cost rate is applied to a book value rate base while investors'  
18 returns are measured relative to stock price levels. Based upon this, I recommend  
19 that less weight be given to the market value DCF cost rate unless the increased  
20 financial risk, resulting from applying a market value cost rate to a book value, is  
21 accounted for.

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<sup>26</sup>Roger A Morin, Regulatory Finance - Utilities' Cost of Capital, Public Utility Reports, Inc., 1994, pp. 236-237.

1 **Q. How do you resolve the financial risk difference between market value cost**  
2 **rates and book value cost rates?**

3 A. The basic proposition of financial theory regarding the economic value of a  
4 company is based on market value. That is, a company's value is based on its  
5 **market value** weighted average cost of capital.<sup>27</sup> The American Society of  
6 Appraisers, ASA Business Valuation Standards, 2009, and the National  
7 Association of Certified Valuation Analysts, Professional Standards, 2007, use the  
8 same definition:

9  
10 Weighted Average Cost of Capital (WACC). The cost of capital  
11 (discount rate) determined by the weighted average, **at market**  
12 **values**, of the cost of all financing sources in the business  
13 enterprise's capital structure. (Emphasis added)

14  
15 Accordingly, the market value derived cost rate reflects the financial risk or  
16 leverage associated with **capitalization ratios based on market value**, not book  
17 value.

18 As shown on page 1 of Schedule 16, for the Water Group there is a large  
19 difference in leverage as a result of the average \$5.188 **billion** difference in market  
20 value common equity and book value common equity. This difference in market  
21 values and book values results in debt/equity ratios based on market value of  
22 26.0%/74.0% (debt/equity) versus 52.0%/48.0% (debt/equity) based on book value  
23 as shown on page 1 of Schedule 16. The larger the difference between market

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<sup>27</sup>For other examples, see <http://www.investinganswers.com/financial-dictionary/financial-statement-analysis/weighted-average-cost-capital-wacc-2905>. Also see <http://www.wallstreetmojo.com/weighted-average-cost-capital-wacc/>, or <http://accountingexplained.com/misc/corporate-finance/wacc>.

1 values and book values the less reliable the models' results are because **the models**  
2 **provide an estimate of the cost of capital of market value**, not book value.

3 Financial theory concludes that capital structure and firm value are related.  
4 Since capital structure and firm value are related, an adjustment is required when a  
5 cost of common equity model is based on market value and if its results are then  
6 applied to book value. As explained previously, the market value derived cost rate  
7 reflects the financial risk or leverage associated with **capitalization ratios based**  
8 **on market value**, not book value. The authors Brealey, Myers and Allen provide  
9 a similar definition of the cost of capital being based on market capitalization, not  
10 book value,

11  
12 The values of debt and equity add up to overall firm value ( $D + E =$   
13  $V$ ) and firm value  $V$  equals asset value. **These figures are all**  
14 **market values, not book (accounting) values.** The market value of  
15 equity is often much larger than the book value, so the market debt  
16 ratio  $D/V$  is often much lower than a debt ratio computed from the  
17 book balance sheet.<sup>28</sup>

18 The work of Modigliani and Miller concludes that the market value of any  
19 firm is independent of its capital structure and this is precisely the reason why an  
20 adjustment is appropriate. The only way for the market value of a firm to remain  
21 independent of its capital structure is if the capital cost rates change to offset  
22 changes in the capital structure. If the capital cost rates do not change to offset  
23 changes in the capital structure, then the value of the firm will change. Clearly an  
24 adjustment is required when a cost of common equity model is based on **market**

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<sup>28</sup>Brealey, Myers and Allen, Principles of Corporate Finance, 10th edition, page 216 (emphasis added).



1 leveraged beta, their book value leveraged beta of 0.33 (1.10 - 0.77) indicates that  
2 the Water Group's common equity cost rate must be increased by 1.82 (0.33 x 5.5  
3 = 1.82) in recognition of their book value's exposure to more financial risk.

4 **Q. Is there another way to reflect the financial risk difference that exists as a**  
5 **result of market capitalization ratios being significantly different from book**  
6 **value capitalization ratios?**

7 A. Yes, generally speaking. Although it is possible to know the direction of a financial  
8 risk adjustment on common equity cost rate, a specific quantification of financial  
9 risk differences is very difficult. Although the end result of a financial risk  
10 adjustment is very subjective and specific quantification very difficult, the direction  
11 of the adjustment is clearly known. However, hypothetically if the Comparable  
12 Group's debt were rated based on market value debt ratios they would command  
13 an Aaa rating. The Comparison Group currently has bonds rated A based upon  
14 their book value debt ratios. The yield spread on a bond rated Aaa versus A rated  
15 bonds averages 45 basis points or 0.45% as shown on page 3 of Schedule 16.

16 The end result of the application of the Hamada Model and the bond yield  
17 spread indicates that the Water Group market value common equity cost rate equity  
18 cost rate should be adjusted upward by at least 1.1% (1.8% hamada est. + 0.4%  
19 yield spread = 2.2% ÷ 2 = 1.1%) since it is going to be applied to a book value.

20 Accounting for the increased amount of leverage between market value  
21 derived DCF cost rates and book value cost rates indicates a book value DCF cost  
22 rate of 9.60% for the Water Group (8.5% + 1.1% = 9.60%).

1 **CAPITAL ASSET PRICING MODEL**

2 **Q. Please briefly describe the theory of the capital asset pricing model.**

3 A. The CAPM is based upon the assumption that investors hold diversified portfolios  
4 and that the market only recognizes or rewards non-diversifiable (or systematic)  
5 risk when determining the price of a security because company-specific risk (or  
6 non-systematic) is removed through diversification. Further, investors are assumed  
7 to require additional or higher returns for assuming additional or higher risk. This  
8 assumption is captured by using a beta that provides an incremental cost of  
9 additional risk above the base risk-free rate available to investors. The beta of a  
10 security reflects the market risk or systematic risk of the security relative to the  
11 market. The beta for the market is always equal to 1.00; therefore, a company  
12 whose stock has a beta greater than 1.00 is considered riskier than the market, and  
13 a company with a beta less than 1.00 is considered less risky than the market. The  
14 base risk-free rate is assumed to be a U.S. Government treasury security because  
15 they are assumed to be free of default risk.

16 **Q. What risk-free rate and beta have you used in your CAPM calculation?**

17 A. The risk-free rate used in CAPM should have approximately the same maturity as  
18 the life of the asset for which the cost rate is being determined. Because utility  
19 assets are long-lived, a long-term Treasury Bond yield serves as an appropriate  
20 proxy. Previously, I estimated an appropriate risk-free rate of 3.2% based upon the  
21 recent and forward long-term Treasury yields. I used the average beta of 0.77 for  
22 the Water Group as shown on page 1 of Schedule 17. However, as stated previously,

1 the Comparable Group's betas are understated due to their small size which affects  
2 their stock price changes.

3 **Q. After developing an appropriate beta and risk-free rate, what else is necessary**  
4 **to calculate a CAPM derived cost rate?**

5 A. A market premium is necessary to determine a traditional CAPM derived cost rate.  
6 The market return rate is the return expected for the entire market. The market  
7 premium is then multiplied by the company specific beta to capture the incremental  
8 cost of additional risk (market premium) above the base risk-free rate (long-term  
9 treasury securities) to develop a risk adjusted market premium. For example, if you  
10 conclude that the expected return on the market as a whole is 15% and further  
11 assume that the risk-free rate is 8%, then the market premium is shown to be 7%  
12 ( $15\% - 8\% = 7\%$ ).

13 Further, assume there are two companies, one of which is considered less  
14 risky than the market, and therefore has a beta of less than 1.00 or 0.80. The second  
15 company has a beta that is greater than 1.00 or 1.20, and is therefore considered  
16 riskier than the market. By multiplying the hypothetical 7.0% market premium by  
17 the respective betas of 0.80 and 1.20, risk adjusted market premiums of 5.6% ( $7.0\%$   
18  $\times 0.80$ ) and 8.4% ( $7.0\% \times 1.20$ ) are shown for the company considered less risky  
19 than the market and for the company considered riskier than the market,  
20 respectively.

21 Adding the assumed risk-free rate of 8% to the risk adjusted market  
22 premiums results in the CAPM derived cost rates of 13.6% ( $5.6\% + 8.0\%$ ) for the  
23 less risky company and 16.4% ( $8.4\% + 8.0\%$ ) for the company considered of

1 greater risk than the market. In fact, the result of this hypothetical CAPM  
2 calculation shows that: (1) the least risky company, with the beta of 0.80, has a cost  
3 rate of 13.6%; (2) the market, with the beta of 1.00, has a cost rate of 15.0%; and  
4 (3) that the higher risk company, with a beta of 1.20, has a cost rate of 16.4%.

5 **Q. How did you develop a market premium for your CAPM?**

6 A. The average projected market premium of 13.7% is developed on page 2 of  
7 Schedule 17. It is based upon Value Line's average projected total market return  
8 for the next three to five years of 16.9% less the risk free rate of 3.2%. I also  
9 reviewed market premiums derived from Ibbotson Associates' most recent  
10 publication concerning asset returns that show a market premium of 7.5%. The  
11 Ibbotson Associates' market premium may be on the low side reflective of the  
12 higher interest rate environment found during their study (*i.e.*, 5.0%). The Value  
13 Line market premium reflects the Federal Reserve's current artificial interest rate  
14 levels while the Ibbotson Associates' market premiums reflect a higher interest rate  
15 environment.

16 **Q. How did you adjust for the impact that size has on the Comparable Group's**  
17 **beta?**

18 A. The adjustment is reflected in the CAPM size premium. The CAPM size premium  
19 is developed on page 4 of Schedule 17. The size premium reflects the risks  
20 associated with the Comparable Group's small size and its impact on the  
21 determination of their beta. This adjustment is necessary because beta (systematic  
22 risk) does not capture or reflect the Comparable Group's small size. I reduced the

1 size premium by the ratio of the Comparison Group's beta to their respective market  
2 quartile's beta.

3 **Q. What is the comparison group's market cost of equity based upon your CAPM  
4 calculation?**

5 A. The CAPM based on Ibbotson Associates' historical market returns shows a market  
6 cost rate of 10.5% for the Water Group. The CAPM based on Value Line's  
7 projected market returns shows an 15.2% for the Water Group, as shown on page  
8 1 of Schedule 17. The Comparable Group's market value CAPM of 10.5% is based  
9 100% on the results of the historical market returns and 0% on the projected market  
10 returns. Adjusting the market value CAPM based upon the end result of the  
11 application of the Hamada Model and the bond yield spread to account for the  
12 difference in leverage between market value capitalization ratios and book value  
13 ratios discussed previously indicates a cost rate of 11.6% for the Water Group  
14 applicable to book value ( $10.5\% + 1.1\% = 11.6\%$ ).

### 15 **RISK PREMIUM**

16 **Q. What is a risk premium?**

17 A. A risk premium is the common equity investors' required premium over the long-  
18 term debt cost rate for the same company, in recognition of the added risk to which  
19 the common stockholder is exposed versus long-term debtholders. Long-term  
20 debtholders have a stated contract concerning the receipt of dividend and principal  
21 repayment whereas common stock investors do not. Further, long-term debtholders  
22 have the first claim on assets in case of bankruptcy. A risk premium recognizes the  
23 higher risk to which a common stock investor is exposed. The risk premium-

1 derived cost rate for common equity is the simplest form of deriving the cost rate  
2 for common equity because it is nothing more than a premium above the  
3 prospective level of long-term corporate debt.

4 **Q. What is the appropriate estimated future long-term borrowing rate for the**  
5 **Comparable Companies?**

6 A. The estimated near term long-term borrowing rate for the Comparable Companies  
7 is 4.7% based upon their credit profile that supports an A bond rating.

8 **Q. What is the appropriate risk premium to be added to the future long-term**  
9 **borrowing rate?**

10 A. To determine a common equity cost rate, it is necessary to estimate a risk premium  
11 to be added to the Comparable Group's prospective long-term debt rate. Investors  
12 may rely upon published projected premiums; they also rely upon their experiences  
13 of investing in ultimately determining a probabilistic forecasted risk premium.

14 Projections of total market returns are shown on page 9 of Schedule 18. A  
15 projected risk premium for the market can be derived by subtracting the debt cost  
16 rate from the projected market return as shown on page 9 of Schedule 18. However,  
17 the derived risk premium for the market is not directly applicable to the Comparable  
18 Companies because they are less risky than the market. The use of 85% of the  
19 market's risk is a conservative estimation of their level of risk as compared to the  
20 market.

21 The midpoint of the risk premium range is 10.4% and the average for the  
22 most recent quarter is 10.5% as shown on page 9 of Schedule 18. Based on this, a  
23 reasonable estimate of a longer term projected risk premium is 10.5%.

1 **Q. How do investors' experiences affect their determination of a risk premium?**

2 A. Returns on various assets are studied to determine a probabilistic risk premium.  
3 The most noted asset return studies and resultant risk premium studies are those  
4 performed by Ibbotson Associates. However, Ibbotson Associates has not  
5 performed asset return studies concerning public utility common stocks. Based  
6 upon Ibbotson Associates' methodology of computing asset returns, I calculated  
7 annual returns for the S&P utilities and bonds for the period 1928-2021. The  
8 resultant annual returns were then compared to determine a recent risk premium  
9 from a recent 20-year period, 2002-2021 and subsequent periods that were each  
10 increased by ten years until the entire study period was reviewed (pages 2 and 3 of  
11 Schedule 18).

12 A long-term analysis of rates of return is necessary because it assumes that  
13 investors' expectations are, on average, equal to realized long-run rates of return  
14 and resultant risk premium. Observing a single year's risk premium, either high or  
15 low, may not be consistent with investors' requirements. Further, studies show a  
16 mean reversion in risk premiums. In other words, over time, risk premiums revert  
17 to a longer-term average premium. Moreover, since the expected rate of return is  
18 defined as "the rate of return expected to be realized from an investment; the mean  
19 value of the probability distribution of possible results,"<sup>29</sup> a long-term analysis of  
20 annual returns is appropriate.

---

<sup>29</sup>Eugene F. Brigham, Fundamentals of Financial Management, Fifth Edition, The Dryden Press, 1989, p. 106.

1 **Q. What do you conclude from the information shown on pages 2 and 3 of**  
2 **Schedule 18?**

3 A. The average of the absolute range of the S&P Utilities' appropriate average risk  
4 premium (i.e., bonds rated AAA to A) was 3.8% during the seven periods studied,  
5 as calculated from page 2 of Schedule 18. The credit adjusted longer term risk  
6 premiums (i.e., bonds rated A), 1928-2021, averages 4.3%. The appropriate  
7 average (i.e., bonds rated AAA to A) longer term risk premiums, 1928-2021, have  
8 an absolute range of 4.3% to 5.2%, and averages 4.6%.

9 The aforementioned premiums are based on total returns for bonds; and  
10 reflect their price risk. A bond's price risk is not related to its credit quality and is  
11 eliminated when a bond is held to maturity from time of purchase. Using the  
12 income returns, page 4 of Schedule 18, for bonds eliminates price risk and better  
13 measures an investor's required return based on credit quality. The appropriate  
14 average risk premium (i.e., bonds rated AAA to A) based on income returns was  
15 5.5% during the seven periods studied. The credit adjusted longer term risk  
16 premiums (i.e., bonds rated A), 1928-2021, averages 4.9%. The appropriate  
17 average (i.e., bonds rated AAA to A) longer term risk premiums, 1928-2021, have  
18 an absolute range of 4.9% to 5.3%, and averages 5.1%.

19 **Q. What information is shown on page 4 of Schedule 18?**

20 A. Page 4 of Schedule 18 proves and measures the negative relationship between  
21 interest rate levels and the resulting risk premium. That is, risk premiums are  
22 generally higher when interest rates are low and risk premiums are generally lower  
23 when interest rates are high. This was proven by sorting the 94-year period, 1928

1 to 2021, annual returns based on interest rate level from lowest interest rate to  
2 highest interest rate and distributing the results into two equal groups, a 47-year  
3 low interest rate environment group and a 47-year high interest rate environment  
4 group.

5 During the period 1928-2021, the 47 years with the lowest interest rates had  
6 an average interest rate of 2.9% and reflected a range of interest rates from 1.4% to  
7 4.1%. This period resembles the current interest rate environment of 3.2%  
8 discussed previously regarding the CAPM's risk free rate. The risk premium based  
9 on total returns during this low interest rate environment produced the appropriate  
10 average (i.e., bonds rated AAA to A) longer term risk premium of 6.4% and a credit  
11 adjusted longer term risk premium (i.e., bonds rated A) of 5.6%. The annual  
12 income return based risk premium during this low interest rate environment  
13 produced the appropriate average (i.e., bonds rated AAA to A) longer term risk  
14 premium of 7.5% and a credit adjusted longer term risk premium (i.e., bonds rated  
15 A) of 7.2%.

16 However, during the period 1928-2021, the 47 years with the highest  
17 interest rates had an average interest rate of 7.2% and reflected a range of interest  
18 rates from 4.1% to 13.5%. This period is far different from the current interest rate  
19 environment of 3.2%. The risk premium based on total returns during the highest  
20 interest rate environment produced an average longer term risk premium of 3.0%  
21 over bonds rated AAA to A and a credit adjusted longer term risk premium (i.e.,  
22 bonds rated A) of only 2.9%. The annual income return based risk premium during  
23 the highest interest rate environment produced an average longer term risk premium

1 of 2.8% over bonds rated AAA to A and a credit adjusted longer term risk premium  
2 (i.e., bonds rated A) of only 2.7%.

3 Over time, risk premiums are mean reverting. They constantly move toward  
4 a long-term average reflecting a long-term level of interest rates. That is, an above-  
5 average risk premium will decrease toward a long-term average while a below-  
6 average risk premium will increase toward a long-term average. In any single year,  
7 of course, investor-required rates of return may not be realized and in certain  
8 instances, a single year's risk premiums may be negative. Negative risk premiums  
9 are not indicative of investors' expectations and violate the basic premise of finance  
10 concerning risk and return. Negative risk premiums usually occur only in the stock  
11 market's down years (*i.e.*, the years in which the stock markets' return was  
12 negative).

13 When interest rate levels are not considered the credit adjusted longer term  
14 risk premium (i.e., bonds rated A), 1928-2021, averages 4.6%, discussed previously  
15 regarding pages 2 and 3 of Schedule 18. However, the annual income return based  
16 risk premium during the low interest rate environment produced a credit adjusted  
17 longer term risk premium (i.e., bonds rated A) of 7.2%. Since this period resembles  
18 the current interest rate environment of 3.2%, a reasonable estimate of investors  
19 risk premium based on historical returns is based on a 50% weighting on the results  
20 of the entire 1928-2021 historical market returns and a 50% weighting on the results  
21 of the low interest rate environment to produce a 5.5% historical risk premium.

22 Adding the risk premium of 5.5% for the Comparable Group to the  
23 prospective cost of newly-issued long-term debt of 4.7% results in a market value

1 risk premium derived cost rate for common equity of 10.2% as reflected on page 1  
2 of Schedule 18. Adjusting the market value risk premium based upon the end result  
3 of the application of the Hamada Model and the bond yield spread to account for  
4 the difference in leverage between market value capitalization and book value ratios  
5 discussed previously indicates a cost rate of 11.3% applicable to book value (10.2%  
6 + 1.1% = 11.3%).

7 **SUMMARY OF COMMON EQUITY COST RATE**

8 **Q. What is your Comparable Group's common equity cost rate?**

9 A. Based upon the results of the models employed, the Water Group's common equity  
10 cost rate is in the range of 9.6% to 11.6% as reflected on Schedule 19. Based upon  
11 this data, the common equity cost rate for the Water Group is at least 10.80%. My  
12 recommendation is based upon the Water Group's 10.80% common equity cost  
13 rate.

14 **Q. Do you recommend a cost of common equity of 10.80% for VWID?**

15 A. Yes. Based upon the financial analysis and risk analysis, I conclude that VWID is  
16 exposed to overall similar investment risk as the Comparable Group. This is  
17 evidenced by the factors summarized in Table 5 discussed previously.

18 The results of the three models employed for the Water Group show a  
19 current range of common equity cost applicable to book value of VWID of 9.60%  
20 (DCF), 11.60% (CAPM), and 11.30% (RP) as shown in Table 9.

Summary of the VWID's Equity Cost Rates	
DCF	9.60
CAPM	11.60
RP	11.30

**Table 9**

1

2 **Q. What is your common equity cost rate recommendation for VWID?**

3 A. As discussed above and as shown in Schedule 19, I recommend a 10.80% common  
4 equity cost rate for VWID.

5 **Q. Have you checked the reasonableness of your recommended common equity  
6 rate for VWID?**

7 A. Yes. Page 2 of Schedule 14 reflects the average projected earned return on average  
8 book common equity for the companies in the Comparable Group for the period  
9 2025-2027, which is shown to range from 10.6% to 10.8%. Given the large degree  
10 to which regulatory lag and attrition impacts water utilities earning, the range of the  
11 comparable utilities' projected earned returns suggests that my recommendation  
12 that VWID be permitted an opportunity to earn 10.80% is reasonable, if not  
13 conservative.

14 **OVERALL RATE OF RETURN RECOMMENDATION**

15 **Q. What is your overall fair rate of return recommendation for the VWID?**

16 A. Based upon the recommended capital structure and my estimate of the VWID's  
17 common equity cost rate, I recommend an overall fair rate of return of 7.77%. The  
18 details of my recommendation are shown on Schedule 1.

1 **Q. HAVE YOU TESTED THE REASONABLENESS OF YOUR OVERALL**  
2 **FAIR RATE OF RETURN RECOMMENDATION?**

3 A. Yes. If my recommended overall rate of return is actually earned, it will give  
4 VWID ratios that will allow VWID to present a financial profile that will enable it  
5 to attract capital necessary to provide safe and reliable water service, at reasonable  
6 terms.

7 **Q. Does that conclude your direct testimony?**

8 A. Yes, it does.

## **APPENDIX A**

Professional Qualifications  
of  
Harold Walker, III  
Manager, Financial Studies  
Gannett Fleming Valuation and Rate Consultants, LLC.

### **EDUCATION**

Mr. Walker graduated from Pennsylvania State University in 1984 with a Bachelor of Science Degree in Finance. His studies concentrated on securities analysis and portfolio management with an emphasis on economics and quantitative business analysis. He has also completed the regulation and the rate-making process courses presented by the College of Business Administration and Economics Center for Public Utilities at New Mexico State University. Additionally, he has attended programs presented by The Institute of Chartered Financial Analysts (CFA).

Mr. Walker was awarded the professional designation “Certified Rate of Return Analyst” (CRRA) by the Society of Utility and Regulatory Financial Analysts. This designation is based upon education, experience and the successful completion of a comprehensive examination. He is also a member of the Society of Utility and Regulatory Financial Analysts (SURFA) and has attended numerous financial forums sponsored by the Society. The SURFA forums are recognized by the Association for Investment Management and Research (AIMR) and the National Association of State Boards of Accountancy for continuing education credits.

Mr. Walker is also a licensed Municipal Advisor Representative (Series 50) by Municipal Securities Rulemaking Board (MSRB) and Financial Industry Regulatory Authority (FINRA).

### **BUSINESS EXPERIENCE**

Prior to joining Gannett Fleming Valuation and Rate Consultants, LLC., Mr. Walker was employed by AUS Consultants - Utility Services. He held various positions during his eleven years with AUS, concluding his employment there as a Vice President. His duties included providing and supervising financial and economic studies on behalf of investor owned and municipally owned water, wastewater, electric, natural gas distribution and transmission, oil pipeline and telephone utilities as well as resource recovery companies.

In 1996, Mr. Walker joined Gannett Fleming Valuation and Rate Consultants, LLC. In his capacity as Manager, Financial Studies and for the past twenty years, he has continuously studied rates of return requirements for regulated firms. In this regard, he supervised the preparation of rate of return studies in connection with his testimony and in the past, for other individuals. He also assisted and/or developed dividend policy studies, nuclear prudence studies, calculated fixed charge rates for avoided costs involving cogeneration projects, financial decision studies for capital budgeting purposes and developed financial models for determining future capital requirements and the effect of those requirements on investors and ratepayers, valued utility property and common stock for acquisition and divestiture, and assisted in the private placement of fixed capital securities for public utilities.

Head, Gannett Fleming GASB 34 Task Force responsible for developing Governmental Accounting Standards Board (GASB) 34 services, and educating Gannett Fleming personnel and Gannett Fleming clients on GASB 34 and how it may affect them. The GASB 34 related services include inventory of assets, valuation of assets, salvage estimation, annual depreciation rate determination, estimation of depreciation reserve, asset service life determination, asset condition assessment, condition assessment documentation, maintenance estimate for asset preservation, establishment of condition level index, geographic information system (GIS) and data management services, management discussion and analysis (MD&A) reporting, required supplemental information (RSI) reporting, auditor interface, and GASB 34 compliance review.

Mr. Walker was also the Publisher of C.A. Turner Utility Reports from 1988 to 1996. C.A. Turner Utility Reports is a financial publication which provides financial data and related ratios and forecasts covering the utility industry. From 1993 to 1994, he became a contributing author for the Fortnightly, a utility trade journal. His column was the Financial News column and focused mainly on the natural gas industry.

In 2004, Mr. Walker was elected to serve on the Board of Directors of SURFA. Previously, he served as an ex-officio directors as an advisor to SURFA's existing President. In 2000, Mr. Walker was elected President of SURFA for the 2001-2002 term. Prior to that, he was elected to serve on the Board of Directors of SURFA during the period 1997-1998 and 1999-2000. Currently, he also serves on the Pennsylvania Municipal Authorities Association, Electric Deregulation Committee.

## **EXPERT TESTIMONY**

Mr. Walker has submitted testimony or been deposed on various topics before regulatory commissions and courts in 26 states including: Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Idaho, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, Nevada, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia. His testimonies covered various subjects including: fair rate of return, fair market value, the taking of natural resources, benchmarking, appropriate capital structure and fixed capital cost rates, depreciation, purchased water adjustments, synchronization of interest charges for income tax purposes, valuation, cash working capital, lead-lag studies, financial analyses of investment alternatives, and fair value. The following tabulation provides a listing of the electric power,

natural gas distribution, telephone, wastewater, and water service utility cases in which he has been involved as a witness.

<u>Client</u>	<u>Docket No.</u>
Alpena Power Company	U-10020
Armstrong Telephone Company - Northern Division	92-0884-T-42T
Armstrong Telephone Company - Northern Division	95-0571-T-42T
Artesian Water Company, Inc.	90 10
Artesian Water Company, Inc.	06 158
Aqua Illinois Consolidated Water Divisions and Consolidated Sewer Divisions	11-0436
Aqua Illinois Hawthorn Woods Wastewater Division	07 0620/07 0621/08 0067
Aqua Illinois Hawthorn Woods Water Division	07 0620/07 0621/08 0067
Aqua Illinois Kankakee Water Division	10-0194
Aqua Illinois Kankakee Water Division	14-0419
Aqua Illinois Vermilion Division	07 0620/07 0621/08 0067
Aqua Illinois Willowbrook Wastewater Division	07 0620/07 0621/08 0067
Aqua Illinois Willowbrook Water Division	07 0620/07 0621/08 0067
Aqua Pennsylvania Wastewater Inc	A-2016-2580061
Aqua Pennsylvania Wastewater Inc	A-2017-2605434
Aqua Pennsylvania Wastewater Inc	A-2018-3001582
Aqua Pennsylvania Wastewater Inc	A-2019-3008491
Aqua Pennsylvania Wastewater Inc	A-2019-3009052
Aqua Pennsylvania Wastewater Inc	A-2019-3015173
Aqua Pennsylvania Wastewater Inc	A-2021-3024267
Aqua Pennsylvania Wastewater Inc	A-2021-3026132
Aqua Pennsylvania Wastewater Inc	A-2021-3027268
Aqua Virginia - Alpha Water Corporation	Pue-2009-00059
Aqua Virginia - Blue Ridge Utility Company, Inc.	Pue-2009-00059
Aqua Virginia - Caroline Utilities, Inc. (Wastewater)	Pue-2009-00059
Aqua Virginia - Caroline Utilities, Inc. (Water)	Pue-2009-00059
Aqua Virginia - Earlysville Forest Water Company	Pue-2009-00059
Aqua Virginia - Heritage Homes of Virginia	Pue-2009-00059

Aqua Virginia - Indian River Water Company	Pue-2009-00059
Aqua Virginia - James River Service Corp.	Pue-2009-00059
Aqua Virginia - Lake Holiday Utilities, Inc. (Wastewater)	Pue-2009-00059
Aqua Virginia - Lake Holiday Utilities, Inc. (Water)	Pue-2009-00059
Aqua Virginia - Lake Monticello Services Co. (Wastewater)	Pue-2009-00059
Aqua Virginia - Lake Monticello Services Co. (Water)	Pue-2009-00059
Aqua Virginia - Lake Shawnee	Pue-2009-00059
Aqua Virginia - Land'or Utility Company (Wastewater)	Pue-2009-00059
Aqua Virginia - Land'or Utility Company (Water)	Pue-2009-00059
Aqua Virginia - Mountainview Water Company, Inc.	Pue-2009-00059
Aqua Virginia - Powhatan Water Works, Inc.	Pue-2009-00059
Aqua Virginia - Rainbow Forest Water Corporation	Pue-2009-00059
Aqua Virginia - Shawnee Land	Pue-2009-00059
Aqua Virginia - Sydnor Water Corporation	Pue-2009-00059
Aqua Virginia - Water Distributors, Inc.	Pue-2009-00059
Atlantic City Sewerage Company	WR21071006
Berkshire Gas Company	18-40
Berkshire Gas Company	22-20
Borough of Brentwood	A-2021-3024058
Borough of Hanover	R-2009-2106908
Borough of Hanover	R-2012-2311725
Borough of Hanover	R-2014-242830
Borough of Hanover	R-2021-3026116
Borough of Hanover	P-2021-3026854
Borough of Royersford	A-2020-3019634
Chaparral City Water Company	W 02113a 04 0616
California-American Water Company	CIVCV156413
Connecticut-American Water Company	99-08-32
Connecticut Water Company	06 07 08
Citizens Utilities Company Colorado Gas Division	-
Citizens Utilities Company Vermont Electric Division	5426
Citizens Utilities Home Water Company	R 901664

Citizens Utilities Water Company of Pennsylvania	R 901663
City of Bethlehem - Bureau of Water	R-00984375
City of Bethlehem - Bureau of Water	R 00072492
City of Bethlehem - Bureau of Water	R-2013-2390244
City of Bethlehem - Bureau of Water	R-2020-3020256
City of Dubois – Bureau of Water	R-2013-2350509
City of Dubois – Bureau of Water	R-2016-2554150
City of Lancaster Sewer Fund	R-00005109
City of Lancaster Sewer Fund	R-00049862
City of Lancaster Sewer Fund	R-2012-2310366
City of Lancaster Sewer Fund	R-2019-3010955
City of Lancaster Sewer Fund	R-2019-3010955
City of Lancaster Water Fund	R-00984567
City of Lancaster Water Fund	R-00016114
City of Lancaster Water Fund	R 00051167
City of Lancaster Water Fund	R-2010-2179103
City of Lancaster Water Fund	R-2014-2418872
City of Lancaster Water Fund	R-2021-3026682
Coastland Corporation	15-cvs-216
Consumers Pennsylvania Water Company  Roaring Creek Division	R-00973869
Consumers Pennsylvania Water Company  Shenango Valley Division	R-00973972
Country Knolls Water Works, Inc.	90 W 0458
East Resources, Inc. - West Virginia Utility	06 0445 G 42T
Elizabethtown Water Company	WR06030257
Forest Park, Inc.	19-W-0168 & 19-W-0269
Hampton Water Works Company	DW 99-057
Hidden Valley Utility Services, LP	R-2018-3001306
Hidden Valley Utility Services, LP	R-2018-3001307
Illinois American Water Company	16-0093
Illinois American Water Company	22-0210
Indian Rock Water Company	R-911971
Indiana Natural Gas Corporation	38891
Jamaica Water Supply Company	-

Kane Borough Authority	A-2019-3014248
Kentucky American Water Company, Inc.	2007 00134
Middlesex Water Company	WR 89030266J
Millcreek Township Water Authority	55 198 Y 00021 11
Missouri-American Water Company	WR 2000-281
Missouri-American Water Company	SR 2000-282
Mount Holly Water Company	WR06030257
Nevada Power Company d/b/a NV Energy	20-06003
New Jersey American Water Company	WR 89080702J
New Jersey American Water Company	WR 90090950J
New Jersey American Water Company	WR 03070511
New Jersey American Water Company	WR-06030257
New Jersey American Water Company	WR08010020
New Jersey American Water Company	WR10040260
New Jersey American Water Company	WR11070460
New Jersey American Water Company	WR15010035
New Jersey American Water Company	WR17090985
New Jersey American Water Company	WR19121516
New Jersey American Water Company	WR22010019
New Jersey Natural Gas Company	GR19030420
New Jersey Natural Gas Company	GR21030679
Newtown Artesian Water Company	R-911977
Newtown Artesian Water Company	R-00943157
Newtown Artesian Water Company	R-2009-2117550
Newtown Artesian Water Company	R-2011-2230259
Newtown Artesian Water Company	R-2017-2624240
Newtown Artesian Water Company	R-2019-3006904
North Maine Utilities	14-0396
Northern Indiana Fuel & Light Company	38770
Oklahoma Natural Gas Company	PUD-940000477
Palmetto Utilities, Inc.	2020-281-S
Palmetto Wastewater Reclamation, LLC	2018-82-S
Pennichuck Water Works, Inc.	DW 04 048
Pennichuck Water Works, Inc.	DW 06 073
Pennichuck Water Works, Inc.	DW 08 073
Pennsylvania Gas & Water Company (Gas)	R-891261
Pennsylvania Gas & Water Co. (Water)	R 901726

Pennsylvania Gas & Water Co. (Water)	R-911966
Pennsylvania Gas & Water Co. (Water)	R-22404
Pennsylvania Gas & Water Co. (Water)	R-00922482
Pennsylvania Gas & Water Co. (Water)	R-00932667
Philadelphia Gas Works	R-2020-3017206
Public Service Company of North Carolina, Inc.	G-5, Sub 565
Public Service Electric and Gas Company	ER181010029
Public Service Electric and Gas Company	GR18010030
Presque Isle Harbor Water Company	U-9702
Sierra Pacific Power Company d/b/a NV Energy	19-06002
Sierra Pacific Power Company d/b/a NV Energy	22-06014
St. Louis County Water Company	WR-2000-844
Suez Water Delaware, Inc.	19-0615
Suez Water Idaho, Inc.	SUZ-W-20-02
Suez Water New Jersey, Inc.	WR18050593
Suez Water New Jersey, Inc.	WR20110729
Suez Water Owego-Nichols, Inc.	17-W-0528
Suez Water Pennsylvania, Inc.	R-2018-3000834
Suez Water Pennsylvania, Inc.	A-2018-3003519
Suez Water Pennsylvania, Inc.	A-2018-3003517
Suez Water Rhode Island, Inc.	Docket No. 4800
	19-W-0168 & 19-W-
Suez Water Owego-Nichols, Inc.	0269
	19-W-0168 & 19-W-
Suez Water New York, Inc.	0269
	19-W-0168 & 19-W-
Suez Westchester, Inc.	0269
Town of North East Water Fund	9190
Township of Exeter	A-2018-3004933
United Water New Rochelle	W-95-W-1168
United Water Toms River	WR-95050219
Upper Pottsgrove Township	A-2020-3021460
Valley Township (water)	A-2020-3019859
Valley Township (wastewater)	A-2020-3020178
Valley Water Systems, Inc.	06 10 07
Virginia American Water Company	PUR-2018-00175
Virginia American Water Company	PUR-2021-00255
West Virginia-American Water Company	15-0676-W-42T
West Virginia-American Water Company	15-0675-S-42T

Wilmington Suburban Water Corporation	94-149
York Water Company	R-901813
York Water Company	R-922168
York Water Company	R-943053
York Water Company	R-963619
York Water Company	R-994605
York Water Company	R-00016236
Young Brothers, LLC	2019-0117

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*Attorneys for Veolia Water Idaho, Inc.*

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF ) Case No. VEO-W-22-02  
VEOLIA WATER IDAHO, INC. FOR )  
AUTHORITY TO INCREASE ITS RATES AND )  
CHARGES FOR WATER SERVICE IN THE )  
STATE OF IDAHO )  
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 )  
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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT 1 TO ACCOMPANY THE  
DIRECT TESTIMONY OF HAROLD WALKER, III

VEOLIA WATER IDAHO, INC.  
BOISE, IDAHO

RATE OF RETURN

EXHIBIT

TO ACCOMPANY THE  
DIRECT TESTIMONY

SEPTEMBER 2022

Prepared by:



Case No. VEO-W-22-02  
Exhibit No. 1  
Schedules 1 to 19  
H. Walker

Veolia Water Idaho, Inc.  
 Cost of Capital and Fair Rate of Return  
At June 30, 2022

<u>Type of Capital</u>	<u>Ratios*</u>	<u>Cost Rate*</u> (%)	<u>Weighted Cost Rate</u> (%)
Debt	44.43%	3.99	1.77%
Preferred Stock	0.00	0.00	0.00
Common Equity	<u>55.57</u>	10.80	<u>6.00</u>
Overall Cost of Capital	<u>100.00%</u>		<u>7.77%</u>
Before Income Tax Interest Coverage (x) (Based on effective income tax rate of 25.74%.)		5.6x	

\* Ratios and embedded cost rates are from Exhibit No. 6. The capital structure ratios are those of Veolia Utility Resources LLC.

Capital Structure Ratios for  
The Water Group Followed by Analysts  
At 3/31/2022 and Estimated for 2026

	<u>3/31/2022</u>	<u>Est.(1)</u> <u>2026</u>
<u>Water Group Followed by Analysts</u>		
Long-term Debt	51.9 %	41.6 %
Preferred Stock	0.0	14.4
Common Equity	<u>48.1</u>	<u>44.0</u>
Total	<u>100.0</u> %	<u>100.0</u> %

Notes: (1) Project by Value Line for the period 2025 to 2027.

Source of Information: Value Line Investment Survey, 7/08/22, and S&P Capital IQ

Capital Structure Ratios for  
The Water Group Followed by Analysts  
At 3/31/2022 and Estimated for 2026

	Actual at 3/31/22		
	Long-term Debt	Preferred Stock	Common Equity
<u>Water Group Followed by Analysts</u>			
American States Water Co	48.4	0.0	51.6
American Water Works Co Inc	58.4	0.0	41.6
California Water Service Gp	47.6	0.0	52.4
Essential Utilities, Inc.	53.5	0.0	46.5
Middlesex Water Co	45.6	0.3	54.1
SJW Corp	59.8	0.0	40.2
York Water Co	<u>49.8</u>	<u>0.0</u>	<u>50.2</u>
Average	<u>51.9</u>	<u>0.0</u>	<u>48.1</u>

	Estimated at 2026		
	Long-term Debt	Preferred Stock	Common Equity
<u>Water Group Followed by Analysts</u>			
American States Water Co	52.0	0.0	48.0
American Water Works Co Inc	60.0	0.0	40.0
California Water Service Gp	39.5	0.0	60.5
Essential Utilities, Inc.	53.0	0.0	47.0
Middlesex Water Co	42.0	0.5	57.5
SJW Corp	45.0	0.0	55.0
York Water Co	<u>NA</u>	<u>NA</u>	<u>NA</u>
Average	<u>41.6</u>	<u>14.4</u>	<u>44.0</u>

Source of Information: Value Line Investment Survey, 7/08/22, and S&P Capital IQ

Veolia Water Idaho, Inc.  
Five Year Analysis  
2017 - 2021 (1)

<u>Ln #</u>		<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>Average</u> <u>Ann. Chg(%)</u>		
		(Millions of \$)							
	Investor Provided Capital(\$)								
1	Permanent Capital	255.838	218.627	193.554	180.331	168.639	11.1		
2	Short-Term Debt	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>			
3	Total Capital	<u>255.838</u>	<u>218.627</u>	<u>193.554</u>	<u>180.331</u>	<u>168.639</u>	11.1		
4	Total Revenue(\$)	51.098	47.423	46.062	48.406	48.899	1.2		
5	Construction(\$)	33.916	40.179	23.877	19.303	25.430	13.1		
6	Effective Income Tax Rate(%)	20.8	(12.5)	30.7	28.7	41.6	<u>Five Year</u> <u>Average</u> 21.9	<u>Average</u> <u>Central</u> <u>Values(9)</u> 26.7	
	Capitalization Ratios(%)								
7	Long-Term Debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
8	Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
9	Common Equity	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	100.0	100.0	
	Total	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>			
10	Total Debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11	Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
12	Common Equity	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	100.0	100.0	
	Total	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>			
	Rates on Average Capital(2)(%)								
13	Total Debt	NA	NA	NA	NA	NA	NA	NA	
14	Long-Term Debt	NA	NA	NA	NA	NA	NA	NA	
15	Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Coverage - Including AFC(3)(x)								
16	PreTax Interest	5.5	4.5	5.3	5.2	4.6	5.0	5.0	
17	PreTax Interest + Pref. Div	5.5	4.5	5.3	5.2	4.6	5.0	5.0	
18	PostTax Interest + Pref. Div	4.6	5.0	4.0	4.0	3.1	4.1	4.2	
	Coverage - Excluding AFC(3)(x)								
19	PreTax Interest	5.5	4.4	5.0	5.0	4.5	4.9	4.8	
20	PreTax Interest + Pref. Div	5.5	4.4	5.0	5.0	4.5	4.9	4.8	
21	PostTax Interest + Pref. Div	4.5	4.8	3.7	3.8	3.0	4.0	4.0	
22	GCF / Interest Coverage(4)(x)	11.6	6.4	6.7	6.2	5.1	7.2	6.4	
23	Coverage of Common Dividends(5)(x)	0.0	0.0	0.0	17.3	13.0	6.1	4.3	
24	Construction / Avg. Tot. Capital(%)	14.3	19.5	12.8	11.1	15.3	14.6	14.1	
25	NCF / Construction(6)(%)	124.4	54.7	93.0	101.4	65.1	87.7	86.5	
26	AFC / Income for Common Stock	1.4	4.5	9.7	5.2	2.3	4.6	4.0	
27	GCF / Avg. Tot. Debt(7)(%)	NA	NA	NA	NA	NA	NA	NA	
28	GCF / Permanent Capital(8)(%)	16.5	10.0	11.5	11.5	10.6	12.0	11.2	

See page 3 of this Schedule for notes.

Case No. VEO-W-22-02  
Exhibit No. 1  
Schedule 3  
H. Walker  
Page 1 of 2

Veolia Water Idaho, Inc.  
Five Year Analysis  
2017-2021

Notes:

- (1) Based upon the achieved results for each individual company based upon the financials as originally reported.
- (2) Computed by relating total debt interest, long-term debt interest and preferred dividend expense to average of beginning and ending balance of the respective capital outstanding.
- (3) The coverage calculations, both including and excluding AFC, represent the number of times available earnings cover the various fixed charges.
- (4) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.
- (5) GCF (see note 4) less all preferred dividends which cover common dividends.
- (6) The percent of GCF (see note 4) less all cash dividends which cover gross construction expenditures.
- (7) GCF (see note 4) as a percentage of Permanent Capital (long-term debt, current maturities and preferred, preference and common equity).
- (8) GCF (see note 4) as a percentage of average total debt.
- (9) Average of the second, third and fourth quintile values.

Source of Information: Annual Reports filed with the ID PUC



Water Group Followed by Analysts  
Five Year Analysis  
2017-2021

Notes:

- (1) Average of the achieved results for each individual company based upon the financials as originally reported.
- (2) Computed by relating total debt interest, long-term debt interest and preferred dividend expense to average of beginning and ending balance of the respective capital outstanding.
- (3) The coverage calculations, both including and excluding AFC, represent the number of times available earnings cover the various fixed charges.
- (4) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.
- (5) GCF (see note 4) less all preferred dividends which cover common dividends.
- (6) The percent of GCF (see note 4) less all cash dividends which cover gross construction expenditures.
- (7) GCF (see note 4) as a percentage of Permanent Capital (long-term debt, current maturities and preferred, preference and common equity).
- (8) GCF (see note 4) as a percentage of average total debt.
- (9) Average of the second, third and fourth quintile values.

Source of Information: Standard & Poor's and Annual Reports



S&P Public Utilities  
Five Year Analysis  
2017-2021

Notes:

- (1) Market value weighted achieved results for each individual company based upon the financials as originally reported.
- (2) Computed by relating total debt interest, long-term debt interest and preferred dividend expense to average of beginning and ending balance of the respective capital outstanding.
- (3) The coverage calculations, both including and excluding AFC, represent the number of times available earnings cover the various fixed charges.
- (4) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.
- (5) GCF (see note 4) less all preferred dividends which cover common dividends.
- (6) The percent of GCF (see note 4) less all cash dividends which cover gross construction expenditures.
- (7) GCF (see note 4) as a percentage of Permanent Capital (long-term debt, current maturities and preferred, preference and common equity).
- (8) GCF (see note 4) as a percentage of average total debt.
- (9) Average of the second, third and fourth quintile values.

Source of Information: Standard & Poor's, Moody's and Annual Reports

Risk Measures for the Common Stock of  
The Water Group Followed by Analysts and the S&P Utilities

Water Group Followed by Analysts

American States Water Co	A+	NYSE	High (A)	0.65	3,221.423	2	Mid-Cap
American Water Works Co Inc	A	NYSE	High (A)	0.85	28,251.729	1	Large-Cap
California Water Service Gp	A+	NYSE	Above Average (A-)	0.65	3,265.708	2	Mid-Cap
Essential Utilities, Inc.	A	NYSE	High (A)	0.95	13,442.977	1	Large-Cap
Middlesex Water Co	A	NasdaqGS	High (A)	0.70	1,670.056	3	Low-Cap
SJW Corp	A-	NYSE	Average (B+)	0.80	1,986.062	3	Low-Cap
York Water Co	<u>A-</u>	NasdaqGS	<u>High (A)</u>	<u>0.80</u>	<u>612.452</u>	<u>3</u>	<u>Low-Cap</u>
Average	<u>A</u>		<u>High (A)</u>	<u>0.77</u>	<u>3,221.423</u>	<u>2</u>	<u>Mid-Cap</u>

S&P Public Utilities

AES Corporation (The)	BBB-	NYSE	Lower (B-)	1.05	14,839.841	1	Large-Cap
Alliant Energy Corporation	A-	NasdaqGS	High (A)	0.80	15,282.080	1	Large-Cap
Ameren Corporation	BBB+	NYSE	Above Average (A-)	0.80	24,046.052	1	Large-Cap
American Electric Power Company, Inc	A-	NasdaqGS	Above Average (A-)	0.75	50,633.621	1	Large-Cap
American Water Works Company, Inc.	A	NYSE	High (A)	0.85	28,251.729	1	Large-Cap
Atmos Energy Corporation	A-	NYSE	High (A)	0.80	16,875.032	1	Large-Cap
CenterPoint Energy, Inc.	BBB+	NYSE	Below Average (B)	1.15	19,947.232	1	Large-Cap
CMS Energy Corporation	BBB+	NYSE	High (A)	0.75	19,945.143	1	Large-Cap
Consolidated Edison, Inc.	A-	NYSE	Average (B+)	0.75	35,170.859	1	Large-Cap
Consolidated Edison, Inc.	A-	NYSE	NA	0.75	35,170.859	1	Large-Cap
Dominion Energy, Inc.	BBB+	NYSE	Average (B+)	0.80	66,581.726	1	Large-Cap
DTE Energy Company	BBB+	NYSE	High (A)	0.95	25,243.850	1	Large-Cap
Duke Energy Corporation	BBB+	NYSE	Average (B+)	0.85	84,635.160	1	Large-Cap
Edison International	BBB	NYSE	Below Average (B)	0.95	25,849.646	1	Large-Cap
Energy Corporation	BBB+	NYSE	Below Average (B)	0.90	23,414.484	1	Large-Cap
Evergy, Inc.	A-	NYSE	Above Average (A-)	0.90	15,664.187	1	Large-Cap
Eversource Energy	A-	NYSE	High (A)	0.90	30,425.149	1	Large-Cap
Exelon Corporation	BBB+	NasdaqGS	Below Average (B)	NMF	45,569.945	1	Large-Cap
FirstEnergy Corp.	BBB-	NYSE	Below Average (B)	0.80	23,484.346	1	Large-Cap
NextEra Energy, Inc.	A-	NYSE	Above Average (A-)	0.90	166,004.193	1	Large-Cap
NiSource Inc.	BBB+	NYSE	Below Average (B)	0.85	12,336.263	2	Mid-Cap
NRG Energy, Inc.	BB+	NYSE	Below Average (B)	1.10	8,957.454	2	Mid-Cap
Pinnacle West Capital Corporation	BBB+	NYSE	High (A)	0.90	8,302.190	2	Mid-Cap
PPL Corporation	A-	NYSE	Below Average (B)	1.10	21,400.060	1	Large-Cap
Public Service Enterprise Group Incorp	BBB+	NYSE	Average (B+)	0.90	32,786.330	1	Large-Cap
Sempra Energy	BBB+	NYSE	Average (B+)	0.95	52,111.724	1	Large-Cap
Southern Co (The)	BBB+	NYSE	Average (B+)	0.90	81,734.172	1	Large-Cap
WEC Energy Group, Inc.	A-	NYSE	High (A)	0.80	32,745.259	1	Large-Cap
Xcel Energy Inc.	<u>A-</u>	NasdaqGS	<u>High (A)</u>	<u>0.80</u>	<u>40,028.826</u>	<u>1</u>	<u>Large-Cap</u>
Average	<u>BBB+</u>		<u>Average (B+)</u>	<u>0.88</u>	<u>25,849.646</u>	<u>1</u>	<u>Large-Cap</u>

Comparative Ratios  
For Veolia Water Idaho, Inc.,  
For the Water Group Followed by Analysts,  
S&P Utilities, and S&P 500  
For the Years 2017-2021(1)

	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>Five Year Average</u>
<u>Return on Common Equity(2)</u>						
Veolia Water Idaho, Inc.	6.0	7.8	6.3	6.7	5.5	6.5
Water Group Followed by Analysts	11.3	10.5	9.5	10.1	11.4	10.6
S&P Utilities	8.7	8.1	30.0	11.5	9.9	13.6
S&P 500	20.5	10.3	15.8	15.9	14.0	15.3
<u>Market/Book Multiple(3)</u>						
Water Group Followed by Analysts	3.6	3.3	3.4	3.1	3.1	3.3
S&P Utilities	2.6	2.3	2.6	1.8	2.2	2.3
S&P 500	4.4	3.3	3.2	3.2	3.1	3.2
<u>Earnings/Price Ratio(4)</u>						
Water Group Followed by Analysts	3.1	3.2	2.7	3.3	3.7	3.2
S&P Utilities	3.9	3.9	5.0	5.2	4.8	4.6
S&P 500	4.7	3.2	4.9	5.1	4.5	4.5
<u>Dividend Payout Ratio(5)</u>						
Veolia Water Idaho, Inc.	0.0	0.0	0.0	10.2	14.9	5.0
Water Group Followed by Analysts	53.7	57.4	73.2	60.5	54.7	59.9
S&P Utilities	225.8	104.9	101.3	59.9	84.1	115.2
S&P 500	30.2	60.4	42.0	40.4	43.8	43.4
<u>Dividend Yield(6)</u>						
Water Group Followed by Analysts	1.7	1.8	1.8	2.0	1.9	1.8
S&P Utilities	3.2	3.5	3.4	3.7	3.5	3.5
S&P 500	1.4	1.9	2.1	2.0	2.0	1.9

See next page for Notes.

Comparative Ratios For  
Veolia Water Idaho, Inc.,  
The Water Group Followed by Analysts,  
The S&P Utilities, and the S&P 500  
For the Years 2017-2021 (1)

Notes:

- (1) The average of achieved results for the companies in each group. The information for the S&P Public Utilities is market weighted. The information for the S&P 500 is based upon per share information adjusted to price index level.
- (2) Rate of Return on Average Book Common Equity - income available for common equity divided by average beginning and ending year's balance of book common equity.
- (3) Market/Book Ratio - average of yearly high-low market price divided by the average of beginning and ending year's book value per share.
- (4) Earnings/Price Ratio - reported earnings per share yearly divided by the average of yearly high-low market price.
- (5) Dividend Payout Ratio is computed by dividing the yearly reported dividends paid by the yearly income available for common equity.
- (6) Dividend Yield - yearly dividend per share divided by the average yearly high-low market price.

Source of Information: Standard & Poor's and Annual Reports

Capital Intensity and Capital Recovery  
Veolia Water Idaho, Inc.  
The Water Group Followed by Analysts, and S&P Utilities  
For the Year 2021

	<u>Capital Intensity</u>	<u>Rate of Capital Recovery</u>	<u>Capital Recovery Years</u>
Veolia Water Idaho, Inc.	<u>\$10.97</u>	<u>4.65%</u>	<u>21.5</u>
Water Group Followed by Analysts	<u>\$6.60</u>	<u>2.19%</u>	<u>46.6</u>
S&P Utilities	<u>\$4.78</u>	<u>3.79%</u>	<u>32.1</u>

Relative Size of  
 Veolia Water Idaho, Inc.  
 Versus the Water Group Followed by Analysts  
For the Year 2021

	<u>Veolia Water Idaho, Inc.</u>	<u>Water Group Followed by Analysts</u>	Water Group Followed by Analysts Vs. <u>Veolia Water Idaho, Inc.</u>
Total Capitalization (000's)	\$255,838	\$5,153,000	20.1 x
Total Operating Revenues (000's)	\$51,098	\$1,124,000	22.0 x
Number of Customers	100,162	968,228	9.7 x

Institutional Holdings, Insider Holdings and Percentage of Shares Traded Annually for  
The Water Group Followed by Analysts, and the S&P Utilities

	Water Group Followed by <u>Analysts</u>	S&P <u>Public Utilities</u>
Percentage of common shares held by insiders (1)	2.5%	0.3%
Percentage of common shares held by institutions (2)	71%	80%
Percentage of Common Shares Traded in 2020	121%	179%
Percentage of Common Shares Traded in 2021	112%	149%
Average Number of Months For All Common Shares to Turnover (3)	11.4	7.7

Notes: (1) An insider is a director or an officer who has a policy-making role or a person who is directly or indirectly the beneficial owner of more than 10% of a certain company's stock. An insider may be either an individual or a corporation. Insiders are required to disclose their purchase/sale transactions to the SEC in which a change in beneficial ownership has occurred. The filings must be submitted before the end of the second business day following the day on which the transaction had been executed.

(2) Institutional holders are those investment managers having a fair market value of equity assets under management of \$100 million or more. Certain banks, insurance companies, investment advisers, investment companies, foundations and pension funds are included in this category.

(3) Based on average turnover (shares traded) over the past five years.

Bond and Credit Ratings for  
Veolia Water Idaho, Inc., Veolia Utility Resources LLC and  
The Water Group Followed by Analysts

	<u>S&amp;P Credit Rating</u>
Veolia Water Idaho, Inc.	<u>NA</u>
Veolia Utility Resources LLC	<u>A</u>
<u>Water Group Followed by Analysts</u>	
American States Water Co	A+
American Water Works Co Inc	A
California Water Service Gp *	A+
Essential Utilities, Inc.	A
Middlesex Water Co	A
SJW Corp	A-
York Water Co	A-
Average	<u>A</u>

\* - The A+ bond rating is that for California Water Service, Inc.

Comparison of Credit Measures of Financial Risk  
Veolia Water Idaho, Inc. and  
For the Water Group Followed by Analysts(1)

	Spot in Credit Measures of Financial Risk (For the Year 2021)			Trend in Credit Measures of Financial Risk (Five-Year Average 2017-21)		
	Credit Implication	VWID	Water Group Followed by Analysts	Credit Implication	VWID	Water Group Followed by Analysts
<b>1. Base Credit Metrics</b>						
2. PreTax Interest Coverage(2)(x)	Higher	5.5x	0.0x	Higher	4.9x	0.0x
3. Total Debt/Total Capital(%)	NA	NA	4.1%	NA	NA	4.0%
4. GCF / Interest Coverage(3)(x)	Lower	11.6x	52.6x	Lower	7.2x	51.0x
5. GCF / Average Total Debt(4)(%)	NA	NA	6.0%	NA	NA	5.5%
6. NCF / Construction(5)(%)	Higher	124.4%	17.2%	Higher	87.7%	19.0%
7. Construction / Average Total Capital(6)(%)	Higher	14.3%	55.5%	Higher	14.6%	52.5%
<b>8. Standard &amp; Poor's Credit Metrics</b>						
9. Funds from Operation / Average Total Debt(7)(%)	NA	NA	0.0%	NA	NA	0.0%
10. Average Total Debt / EBITDA(8)(x)	NA	NA	15.6x	NA	NA	18.5x
11. FFO / Interest Coverage(9)(x)	Higher	11.6x	5.4x	Higher	7.2x	4.5x
12. EBITDA / Interest(10)(x)	Higher	12.1x	5.5x	Higher	8.2x	5.4x
13. CFO / Average Total Debt(11)(%)	NA	NA	5.7%	NA	NA	5.6%
14. FOCF / Average Total Debt(12)(%)	NA	NA	17.2%	NA	NA	19.0%
15. DCF / Average Total Debt(13)(%)	NA	NA	-5.3%	NA	NA	-6.2%
<b>16. Moody's Credit Metrics</b>						
17. Cash Flow Interest Coverage(3) (x)	Higher	11.6x	0.0x	Higher	7.2x	0.0x
18. Cash Flow / Average Total Debt(4)(%)	NA	NA	6.0%	NA	NA	5.5%
19. Retained Cash Flow / Average Total Debt(14)(%)	NA	NA	17.2%	NA	NA	19.0%
20. Average Total Debt / Average Adjusted Total Capital(15)(%)	NA	NA	11.9%	NA	NA	13.0%
<b>21. Capital Credit Metrics</b>						
<b>22. Standard &amp; Poor's Credit Metrics - Adjusted to Total Capital</b>						
23. Funds from Operation / Average Total Capital(16)(%)	Higher	17.8%	0.0%	Higher	12.6%	0.0%
24. Average Total Capital / EBITDA(17)(x)	Higher	4.9x	8.1x	Higher	6.0x	9.1x
25. CFO / Average Total Capital(18)(%)	Higher	17.8%	10.1%	Higher	12.6%	8.8%
26. FOCF / Average Total Capital(19)(%)	Lower	3.5%	9.0%	Lower	-2.0%	9.4%
27. DCF / Average Total Capital(20)(%)	Higher	3.5%	-2.6%	Higher	-2.3%	-3.1%
<b>28. Moody's Credit Metrics - Adjusted to Total Capital</b>						
29. Cash Flow / Average Total Capital(21)(%)	Higher	17.8%	0.0%	Higher	12.6%	0.0%
30. Retained Cash Flow / Average Total Capital(22)(%)	Higher	17.8%	9.0%	Higher	12.3%	9.4%

See the next page for notes.

Comparison of Credit Market Financial Risk Metrics  
For Veolia Water Idaho, Inc. and  
The Water Group Followed by Analysts  
2017 - 2021

Notes:

- (1) Average of the achieved results for each individual company based upon the financials as originally reported.
- (2) Represents the number of times available pretax earnings (“EBIT”), excluding AFC, cover all interest charges.
- (3) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.
- (4) GCF (see note 3) as a percentage of average total debt.
- (5) The percent of GCF (see note 3) less all cash dividends which cover gross construction expenditures.
- (6) Construction expenditures as a percentage of average total capital.
- (7) Funds from operations (“FFO”), revenue minus operating expenses, plus depreciation and amortization expenses (“EBITDA”) less net interest expense less current tax expense, as a percentage of average total debt.
- (8) Average total debt divided by EBITDA (see note 7).
- (9) FFO (see note 7) plus interest charges, divided by interest charges.
- (10) EBITDA (see note 7) divided by interest charges.
- (11) Cash flow from operations (“CFO”), GCF (see note 3) plus changes in operating assets and liabilities (working capital), as a percentage of average total debt.
- (12) Free operating cash flow (“FOCF”), CFO (see note 11) minus capital expenditures, as a percentage of average total debt.
- (13) Discretionary cash flow (“DCF”), FOCF (see note 12) minus cash dividends as a percentage of average total debt.
- (14) The percent of GCF (see note 3) less all cash dividends as a percentage of average total debt.
- (15) Average total debt divided by average of total capital plus deferred taxes (balance sheet).
- (16) Funds from operations (“FFO”), revenue minus operating expenses, plus depreciation and amortization expenses (“EBITDA”) less net interest expense less current tax expense, as a percentage of average total capital.
- (17) Average total capital divided by EBITDA (see note 7).
- (18) Cash flow from operations (“CFO”), GCF (see note 3) plus changes in operating assets and liabilities (working capital), as a percentage of average total capital.
- (19) Free operating cash flow (“FOCF”), CFO (see note 11) minus capital expenditures, as a percentage of average total capital.
- (20) Discretionary cash flow (“DCF”), FOCF (see note 12) minus cash dividends as a percentage of average total capital.
- (21) GCF (see note 3) as a percentage of average total capital.
- (22) The percent of GCF (see note 3) less all cash dividends as a percentage of average total capital.

Source of Information: Standard & Poor's, Moody's and Annual Reports

Distribution of Bond and Credit Ratings for  
All Companies Contained in S&P's *Capital IQ* Database (1)

Number of Companies In Each Grouping	S&P Bond and Credit Ratings				Range of Reported Permanent Capital By Groupings (Million \$)		
	Average	Median	Maximum	Minimum	Smallest	Average	Largest
	100	B+	B	AA-	CCC-	78.800	544.473
100	B+	B+	AA-	CCC+	828.900	1,083.605	1,372.900
100	BB	BB-	AA-	CCC+	1,373.800	1,626.344	1,863.900
100	BB	BB-	A+	CCC+	1,874.200	2,209.218	2,529.800
100	BB+	BB	AA+	CCC+	2,530.100	2,924.806	3,367.400
100	BB+	BB+	AA-	CC	3,371.400	3,793.940	4,230.600
100	BB+	BB+	AA	CCC+	4,232.100	4,783.777	5,428.900
100	BBB-	BBB-	A+	B-	5,434.200	6,113.916	6,972.000
100	BBB-	BBB-	AA+	CCC+	6,982.400	7,883.185	8,827.900
100	BBB	BBB	AA-	CCC+	8,827.900	10,215.632	11,612.000
100	BBB	BBB	AA-	B-	11,643.000	13,737.919	16,636.600
100	BBB	BBB+	AA-	CCC-	16,681.000	19,887.954	24,031.000
100	BBB+	BBB+	AA+	B	24,061.000	30,156.292	38,223.000
100	BBB+	A-	AA+	B-	38,230.000	59,444.273	95,309.000
40	A	A-	AAA	BB-	98,614.000	170,069.678	375,831.000
Total	1,440						

Number of Companies In Each Grouping	Range of Reported Permanent Capital By Groupings (Million \$)			Distribution of S&P Bond and Credit Ratings By Size Grouping							
	Smallest	Average	Largest	AAA	AA	A	BBB	BB	B	CCC	CC
100	78.800	544.473	825.300	0%	1%	6%	3%	8%	74%	8%	0%
100	828.900	1,083.605	1,372.900	0%	1%	4%	3%	28%	60%	4%	0%
100	1,373.800	1,626.344	1,863.900	0%	2%	7%	17%	34%	36%	4%	0%
100	1,874.200	2,209.218	2,529.800	0%	0%	5%	22%	44%	28%	1%	0%
100	2,530.100	2,924.806	3,367.400	0%	4%	7%	26%	36%	25%	2%	0%
100	3,371.400	3,793.940	4,230.600	0%	1%	13%	30%	39%	13%	3%	1%
100	4,232.100	4,783.777	5,428.900	0%	1%	12%	35%	30%	21%	1%	0%
100	5,434.200	6,113.916	6,972.000	0%	0%	17%	42%	32%	9%	0%	0%
100	6,982.400	7,883.185	8,827.900	0%	2%	11%	47%	29%	10%	1%	0%
100	8,827.900	10,215.632	11,612.000	0%	3%	24%	46%	19%	7%	1%	0%
100	11,643.000	13,737.919	16,636.600	0%	3%	21%	53%	18%	5%	0%	0%
100	16,681.000	19,887.954	24,031.000	0%	2%	32%	47%	12%	4%	3%	0%
100	24,061.000	30,156.292	38,223.000	0%	3%	37%	49%	7%	4%	0%	0%
100	38,230.000	59,444.273	95,309.000	0%	14%	37%	37%	7%	5%	0%	0%
40	98,614.000	170,069.678	375,831.000	5%	20%	38%	28%	10%	0%	0%	0%
1,440											

Note: (1) Includes all non-financial public and private companies located in the US that are contained in S&P's *Capital IQ* Database that have a S&P bond or credit ratings of CC or higher and reported permanent capital for the year 2021 (as of 8/12/22). Companies were sorted based on amount of reported permanent capital and then separated into groups of 100 companies from smallest to largest.

Interest Rate Trends for  
Investor-Owned Public Utility Bonds  
Yearly for 2016-2020, Monthly for the Years 2021 and 2022

<u>Years</u>	<u>Aaa Rated</u>	<u>Aa Rated</u>	<u>A Rated</u>	<u>Baa Rated</u>
2016	NA	3.73	3.93	4.68
2017	NA	3.82	4.00	4.38
2018	NA	4.09	4.25	4.67
2019	NA	3.61	3.77	4.19
2020	NA	2.79	3.02	3.39
Average	NA	3.61	3.79	4.26
Jan 2021	NA	2.73	2.91	3.18
Feb 2021	NA	2.93	3.09	3.37
Mar 2021	NA	3.27	3.44	3.72
Apr 2021	NA	3.13	3.30	3.57
May 2021	NA	3.17	3.33	3.58
Jun 2021	NA	3.01	3.16	3.41
Jul 2021	NA	2.80	2.95	3.20
Aug 2021	NA	2.82	2.95	3.19
Sep 2021	NA	2.84	2.96	3.19
Oct 2021	NA	2.99	3.09	3.32
Nov 2021	NA	2.91	3.02	3.25
Dec 2021	NA	3.01	3.13	3.36
Avg 2021	NA	2.97	3.11	3.36
Jan 2022	NA	3.19	3.33	3.57
Feb 2022	NA	3.56	3.68	3.95
Mar 2022	NA	3.81	3.98	4.28
Apr 2022	NA	4.10	4.32	4.61
May 2022	NA	4.55	4.75	5.07
Jun 2022	NA	4.65	4.86	5.22
Jul 2022	NA	4.57	4.78	5.15

Source of Information: MERGENT BOND RECORD

Credit Risk Spreads of  
Investor-Owned Public Utility Bonds  
Yearly for 2016-2020, Monthly for the Years 2021 and 2022

	<u>Years</u>	Aa Over <u>Aaa</u>	A Over <u>Aa</u>	Baa Over <u>A</u>	Baa Over <u>Aaa</u>
	2016	NA	0.20	0.74	NA
	2017	NA	0.18	0.38	NA
	2018	NA	0.16	0.42	NA
	2019	NA	0.16	0.42	NA
	2020	NA	0.23	0.37	NA
	Average	NA	0.19	0.47	NA
Jan	2021	NA	0.18	0.27	NA
Feb	2021	NA	0.16	0.28	NA
Mar	2021	NA	0.17	0.28	NA
Apr	2021	NA	0.17	0.27	NA
May	2021	NA	0.16	0.25	NA
Jun	2021	NA	0.15	0.25	NA
Jul	2021	NA	0.15	0.25	NA
Aug	2021	NA	0.13	0.24	NA
Sep	2021	NA	0.12	0.23	NA
Oct	2021	NA	0.10	0.23	NA
Nov	2021	NA	0.11	0.23	NA
Dec	2021	NA	0.12	0.23	NA
Avg	2021	NA	0.14	0.25	NA
Jan	2022	NA	0.14	0.24	NA
Feb	2022	NA	0.12	0.27	NA
Mar	2022	NA	0.17	0.30	NA
Apr	2022	NA	0.22	0.29	NA
May	2022	NA	0.20	0.32	NA
Jun	2022	NA	0.21	0.36	NA
Jul	2022	NA	0.21	0.37	NA

Source of Information: MERGENT BOND RECORD

Interest Rate Trends  
Of Long-Term Treasury Constant  
Yearly for 2016-2020, Monthly for the Years 2021 and 2022

<u>Years</u>	<u>10-Year T-Bond</u>	<u>20-Year T-Bond</u>	<u>30-Year T-Bond</u>	<u>Long-term T-Bond Yield</u>
2016	1.84	2.23	2.60	2.22
2017	2.33	2.65	2.90	2.63
2018	2.91	3.02	3.11	3.01
2019	2.14	2.40	2.58	2.37
2020	0.89	1.35	1.56	1.35
Average	2.02	2.33	2.55	2.32
Jan 2021	1.08	1.63	1.82	1.73
Feb 2021	1.26	1.88	2.04	1.96
Mar 2021	1.61	2.24	2.34	2.29
Apr 2021	1.64	2.20	2.30	2.25
May 2021	1.62	2.22	2.32	2.27
Jun 2021	1.52	2.09	2.16	2.13
Jul 2021	1.32	1.87	1.94	1.91
Aug 2021	1.28	1.83	1.92	1.88
Sep 2021	1.37	1.87	1.94	1.91
Oct 2021	1.58	2.03	2.06	2.05
Nov 2021	1.56	1.97	1.94	1.96
Dec 2021	1.47	1.90	1.85	1.88
Avg 2021	1.44	1.98	2.05	2.02
Jan 2022	1.76	2.15	2.10	2.13
Feb 2022	1.93	2.31	2.25	2.28
Mar 2022	2.13	2.51	2.41	2.46
Apr 2022	2.75	2.99	2.81	2.90
May 2022	2.90	3.26	3.07	3.17
Jun 2022	3.14	3.48	3.25	3.37
Jul 2022	2.90	3.35	3.10	3.23

Source of Information: Federal Reserve Bulletin

Spread in Average Long-Term Bond Yields  
Versus Public Utility Bond Yields  
Yearly for 2016-2020, Monthly for the Years 2021 and 2022

<u>Spread in Average Long-Term T-Bond Yields Versus Public Utility Bonds:</u>					
	<u>Years</u>	<u>Aaa Rated</u>	<u>Aa Rated</u>	<u>A Rated</u>	<u>Baa Rated</u>
	2016	NA	1.51	1.71	2.45
	2017	NA	1.19	1.37	1.75
	2018	NA	1.08	1.24	1.66
	2019	NA	1.24	1.40	1.82
	2020	NA	1.44	1.67	2.04
	Average	NA	1.29	1.48	1.94
Jan	2021	NA	1.01	1.19	1.46
Feb	2021	NA	0.97	1.13	1.41
Mar	2021	NA	0.98	1.15	1.43
Apr	2021	NA	0.88	1.05	1.32
May	2021	NA	0.90	1.06	1.31
Jun	2021	NA	0.89	1.04	1.29
Jul	2021	NA	0.90	1.05	1.30
Aug	2021	NA	0.95	1.08	1.32
Sep	2021	NA	0.94	1.06	1.29
Oct	2021	NA	0.95	1.05	1.28
Nov	2021	NA	0.96	1.07	1.30
Dec	2021	NA	1.14	1.26	1.49
Avg	2021	NA	0.96	1.10	1.35
Jan	2022	NA	1.07	1.21	1.45
Feb	2022	NA	1.28	1.40	1.67
Mar	2022	NA	1.35	1.52	1.82
Apr	2022	NA	1.20	1.42	1.71
May	2022	NA	1.39	1.59	1.91
Jun	2022	NA	1.29	1.50	1.86
Jul	2022	NA	1.35	1.56	1.93

Comment: Derived from the information on pages 1 and 3 of this Schedule.

Interest Rate Trends for  
Federal Funds Rate and Prime Rate  
Yearly for 2016-2020, Monthly for the Years 2021 and 2022

	<u>Years</u>	<u>Fed Funds Rate</u>	<u>Prime Rate</u>
	2016	0.40	3.51
	2017	1.00	4.10
	2018	1.83	4.90
	2019	2.16	5.28
	2020	0.38	3.54
	Average	1.15	4.27
Jan	2021	0.09	3.25
Feb	2021	0.08	3.25
Mar	2021	0.07	3.25
Apr	2021	0.07	3.25
May	2021	0.06	3.25
Jun	2021	0.08	3.25
Jul	2021	0.10	3.25
Aug	2021	0.09	3.25
Sep	2021	0.08	3.25
Oct	2021	0.08	3.25
Nov	2021	0.08	3.25
Dec	2021	0.08	3.25
Avg	2021	0.08	3.25
Jan	2022	0.08	3.25
Feb	2022	0.08	3.25
Mar	2022	0.20	3.37
Apr	2022	0.33	3.50
May	2022	0.77	3.94
Jun	2022	1.21	4.38
Jul	2022	1.68	4.85

Source of Information: Federal Reserve Bulletin

Blue Chip Financial Forecasts - August 1, 2022

	Third Quarter <u>2022</u>		Fourth Quarter <u>2022</u>		First Quarter <u>2023</u>		Second Quarter <u>2023</u>		Third Quarter <u>2023</u>		Five Quarter <u>Average</u>	
<u>Prime Rate</u>												
Top Ten Average	5.9	%	6.5	%	7.0	%	7.1	%	7.0	%	6.7	%
Group Average	5.5		6.3		6.6		6.6		6.5		6.3	
Bottom Ten Average	5.3		6.1		6.3		6.2		5.9		6.0	
<u>Three-Month Treasury Bills</u>												
Top Ten Average	2.9		3.6		3.9		3.9		3.9		3.6	
Group Average	2.5		3.2		3.4		3.4		3.3		3.2	
Bottom Ten Average	2.2		2.8		3.1		3.0		2.8		2.8	
<u>Ten Year Treasury Notes</u>												
Top Ten Average	3.4		3.8		4.1		4.2		4.1		3.9	
Group Average	3.1		3.3		3.4		3.3		3.3		3.3	
Bottom Ten Average	2.7		2.8		2.7		2.6		2.6		2.7	
<u>Thirty Year Treasury Bonds</u>												
Top Ten Average	3.5		4.0		4.3		4.4		4.4		4.1	
Group Average	3.2		3.4		3.5		3.5		3.5		3.4	
Bottom Ten Average	2.9		2.9		2.9		2.9		2.8		2.9	
<u>Aaa-Rated Corporate Bonds</u>												
Top Ten Average	4.7		5.2		5.5		5.7		5.6		5.3	
Group Average	4.4		4.8		4.9		4.9		4.9		4.8	
Bottom Ten Average	4.1		4.3		4.4		4.2		4.2		4.2	
<u>Baa-Rated Corporate Bonds</u>												
Top Ten Average	5.1		5.1		5.1		5.1		5.1		5.1	
Group Average	5.4		5.8		6.0		6.0		6.0		5.8	
Bottom Ten Average	4.6		4.6		4.6		4.6		4.6		4.6	

Derived Public Utility Bond Yield Forecasts Based on Aaa and Baa Corporate Yields

Aa-Rated Public Utility Bonds

Top Ten Average	4.8	5.1	5.2	5.3	5.3	5.1
Group Average	4.8	5.2	5.4	5.4	5.4	5.2
Bottom Ten Average	4.3	4.4	4.4	4.3	4.3	4.3

A-Rated Public Utility Bonds

Top Ten Average	5.0	5.2	5.4	5.5	5.4	5.3
Group Average	5.0	5.4	5.5	5.6	5.5	5.4
Bottom Ten Average	4.4	4.5	4.6	4.5	4.5	4.5

Baa-Rated Public Utility Bonds

Top Ten Average	5.2	5.5	5.7	5.7	5.7	5.6
Group Average	5.2	5.6	5.8	5.8	5.8	5.6
Bottom Ten Average	4.7	4.8	4.8	4.8	4.7	4.8

Settled Yields on Treasury Bond  
Future Contracts  
Traded on the Chicago Board of Trade  
at the Close of August 10, 2022

<u>Delivery Date</u>	<u>Treasury Bonds (CBOT)</u>
Sep-21	3.101 %
Dec-21	3.109
Mar-22	<u>3.109</u>
Average	<u><u>3.107</u></u> %

Source of Information: Chicago Board of Trade

Market Value Discounted Cash Flow for  
The Water Group Followed by Analysts

	Water Group Followed by <u>Analysts</u>
Dividend Yield(1)	1.8 %
Growth in Dividends(2)	<u>0.1</u>
Adjusted Dividend Yield	1.9
Stock Appreciation(3)	<u>6.6</u>
Market Value DCF Cost Rate	<u><u>8.5 %</u></u>

- Notes: (1) Developed on page 2 of this Schedule.  
(2) Equal to one-half the assumed growth in value.  
(3) As explained in the direct testimony, the growth in value is supported by the information shown on Schedules 13 and 14.

Market Value Dividend Yield for  
the Water Group Followed by Analysts  
For the Twelve Months Ended July 2022

	<u>Recent Dividend Yields(1)</u>	<u>Longer Term Dividend Yields(2)</u>	<u>Average Yields</u>
<u>Water Group Followed by Analysts</u>			
American States Water Co	1.7 %	1.7 %	
American Water Works Co Inc	1.7	1.5	
California Water Service Gp	1.7	1.6	
Essential Utilities, Inc.	2.2	2.2	
Middlesex Water Co	1.3	1.2	
SJW Corp	2.3	2.1	
York Water Co	<u>1.9</u>	<u>1.7</u>	
Average	<u>1.8 %</u>	<u>1.7 %</u>	<u>1.8 %</u>

Notes: (1) Average of the high and the low dividend yield for the month of July 2022.

(2) Average of the high and the low dividend yield for each of the twelve months ended July 2022.

Source of Information: S&P Capital IQ

Development of Long Term Projected Growth in Value  
Based Upon Growth Over The Next Five Years  
For the Water Group Followed by Analysts

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>
	<u>Analysts' Projected Growth in EPS</u>				<u>Other Projected Growth</u>			
	First Call EPS Growth	S&P EPS Growth	ZACK's EPS Growth	Value Line EPS Growth	Value Line DPS Growth	Value Line Cash Flow Growth	Average EPS Growth	Average All Growth
<u>Water Group Followed by Analysts</u>								
American States Water Co	4.4 %	6.0 %	NA %	5.5 %	9.0 %	5.5 %	5.3 %	6.1 %
American Water Works Co Inc	8.3	8.2	8.8	3.0	8.5	3.5	7.1	6.7
California Water Service Gp	11.7	4.0	NA	6.5	6.5	2.0	7.4	6.1
Essential Utilities, Inc.	6.8	6.6	6.1	10.0	8.0	10.0	7.4	7.9
Middlesex Water Co	2.7	NA	NA	4.5	5.0	3.5	3.6	3.9
SJW Corp	9.8	8.0	NA	14.0	5.5	2.5	10.6	8.0
York Water Co	4.9	NA	NA	NA	NA	NA	4.9	4.9
Average	<u>6.9 %</u>	<u>6.6 %</u>	<u>7.4 %</u>	<u>7.3 %</u>	<u>7.1 %</u>	<u>4.5 %</u>	<u>6.6 %</u>	<u>6.2 %</u>

<u>Historical 5-Year Growth in EPS</u>				
First Call EPS Growth	ZACK's EPS Growth	Value Line EPS Growth	Average EPS Growth	

Water Group Followed by Analysts

American States Water Co	7.7 %	8.4 %	8.5 %	8.2 %
American Water Works Co Inc	8.3	8.4	13.5	10.1
California Water Service Gp	7.5	11.8	11.0	10.1
Essential Utilities, Inc.	6.8	4.9	1.0	4.2
Middlesex Water Co	8.5	9.2	11.0	9.6
SJW Corp	-1.1	-4.1	-6.5	-3.9
York Water Co	4.2	6.1	6.0	5.4
Average	<u>6.0 %</u>	<u>6.4 %</u>	<u>6.4 %</u>	<u>6.2 %</u>

Source of Information: Value Line Investment Survey, 7/08/22; S&P Capital IQ 8/11/22; FirstCall 8/11/22; and Zacks Investment Research 8/11/22

Recent Payout Ratios,  
ROEs, P-E Multiples, Market/Book Multiples, and Market Value  
For the Water Group Followed by Analysts

	<u>Current Dividend Payout</u>	<u>Current Return on Equity</u>	<u>PE Mult</u>	<u>Market to Book Mult</u>	<u>Current Market Value (Mill \$)</u>
<u>Water Group Followed by Analysts</u>					
American States Water Co	59	13.3	36.2	4.69	3,221.423
American Water Works Co Inc	34	18.3	22.0	3.79	28,251.729
California Water Service Gp	47	10.0	29.9	2.77	3,265.708
Essential Utilities, Inc.	61	8.5	30.1	2.50	13,442.977
Middlesex Water Co	47	11.5	40.0	4.42	1,670.056
SJW Corp	67	6.2	31.9	1.93	1,986.062
York Water Co	<u>58</u>	<u>11.5</u>	<u>32.8</u>	<u>3.65</u>	<u>612.452</u>
Average	<u>53</u>	<u>11.3</u>	<u>31.9</u>	<u>3.39</u>	<u>7,492.915</u>

Source of Information: S&P Capital IQ

Value Line Projected ROE Based on Year-End and Average,  
Dividend Payout Ratio, and Common Equity Ratio for  
The Water Group Followed by Analysts for 2025 - 2027

	Value Line Projected <u>ROE</u>	Projected Average ROE <u>(1)</u>	Value Line Projected Dividend <u>Payout</u>	Value Line Projected Common Equity <u>Ratio</u>
<u>Water Group Followed by Analysts</u>				
American States Water Co	13.5 %	13.7 %	66.2 %	48.0 %
American Water Works Co Inc	10.5	10.7	61.7	40.0
California Water Service Gp	10.0	10.1	49.0	60.5
Essential Utilities, Inc.	8.5	8.8	68.9	47.0
Middlesex Water Co	12.0	12.1	50.9	57.5
SJW Corp	9.0	9.2	48.2	55.0
York Water Co	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Average	<u>10.6</u> %	<u>10.8</u> %	<u>57.5</u> %	<u>51.3</u> %

Notes: (1) Value Line ROE, which is a year-end ROE, is converted to average ROE by the factor derived from the following formula:  $2((1+g)/(2+g))$ , where "g" is the rate of growth in common equity.

Source of Information: Value Line Investment Survey, 7/08/22

Illustration of the  
Effect of Market-To-Book Ratio on Market Return

<u>Ln #</u>	<u>Situation 1</u>	<u>Situation 2</u>	<u>Situation 3</u>
1 M/B Ratio	50%	100%	200%
2 Market Purchase Price	\$25.00	\$50.00	\$100.00
3 Book Value	\$50.00	\$50.00	\$50.00
4 DCF Return	10.0%	10.0%	10.0%
5 DCF Dollar Return	\$5.00	\$5.00	\$5.00
6 Dividend Yield	5.0%	5.0%	5.0%
7 DPS	\$1.25	\$2.50	\$5.00
8 Dollar Growth in Value	\$3.75	\$2.50	\$0.00
9 Market Sale Price	\$28.75	\$52.50	\$100.00
10 Total Market Return	20.0%	10.0%	5.0%

"The simple numerical illustration....demonstrates the impact of market-to-book ratios on the DCF market return....The DCF cost rate of 10%, made up of a 5% dividend yield and a 5% growth rate, is applied to the book value rate base of \$50 to produce \$5.00 of earnings. Of the \$5.00 of earnings, the full \$5.00 are required for dividends to produce a dividend yield of 5.0% on a stock price of \$100.00, and no dollars are available for growth. The investor's return is therefore only 5% versus his required return of 10%. A DCF cost rate of 10%, which implies \$10.00 of earnings, translates to only \$5.00 of earnings on book value, or a 5% return.....Therefore, the DCF cost rate understates the investor's required return when stock prices are well above book, as is the case presently."

The above illustration is taken from Roger A Morin, Regulatory Finance - Utilities' Cost of Capital, Public Utility Reports, Inc., 1994, pp. 236-237.

Differences in Book Value and Market Values for the  
Water Group Followed by Analysts

	Recent Book Value Capitalization Ratios <u>(3/31/22)</u>	Recent Market Value Capitalization Ratios	Average Book Value of Common Equity <u>(Millions)</u>	Average Market Value of Common Equity <u>(Millions)</u>	Difference in Market Value and Book Value Common Equity
<u>Water Group Followed by Analysts:</u>					
Long Term Debt	51.9 %	25.5 %			
Preferred Stock	0.0	0.1			
Common Equity	<u>48.1</u>	<u>74.4</u>	<u>\$2,303.982</u>	<u>\$7,492.915</u>	<u>\$5,188.933</u>
Total	<u>100.0 %</u>	<u>100.0 %</u>			

Financial Risk Adjustment Using the "Hamada Model"

Water Group Followed by Analysts

	<u>Market Value @ (3/31/22)</u>				
Line No.	<u>DEBT</u>	<u>PREF</u>	<u>CE</u>	<u>TAX</u>	<u>BETA</u>
	(D)	(P)	(E)	(t)	(Bl)
1 .					
2 .	25.5%	0.1%	74.4%	25.740%	0.77
3 .	Bl = Bu (1+(1-t)D/E+P/E)				
4 .	1-t = 0.7426				
5 .	D/E = 0.3427				
6 .	P/E = 0.0013				
7 .	Bl = Bu * 1.2559				
8 .	Bu = 0.61				

Water Group Followed by Analysts

	<u>Book Value @ (3/31/22)</u>			
Line No.	<u>DEBT</u>	<u>PREF</u>	<u>CE</u>	<u>TAX</u>
	(D)	(P)	(E)	(t)
9 .				
10 .				
11 .	51.90%	0.00%	48.10%	25.740%
12 .	Bl = Bu (1+(1-t)D/E+P/E)			
13 .	1-t = 0.7426			
14 .	D/E = 1.0790			
15 .	P/E = 0.0000			
16 .	Bl = Bu * 1.8013			
17 .	Bl = 1.10			

Cost Adjustment Based on Risk Premium

18 .	Barometer Group's Beta	=	<u>0.77</u>
19 .	Beta difference	=	0.33
20 .	Risk premium	=	<u>5.5</u>
21 .	Risk adjustment	=	<u>1.82</u>

Default Spread for  
Aaa Rated Corporate Bonds and A Rated Investor-Owned Public Utility Bonds  
Yearly for 2016-2020, Monthly for the Years 2021 and 2022

	<u>Years</u>	<u>Corporate Aaa Rated</u>	<u>Public Utility A Rated</u>	<u>A Over Aaa</u>
	2016	3.67	3.93	0.27
	2017	3.74	4.00	0.25
	2018	3.93	4.25	0.32
	2019	3.39	3.77	0.38
	2020	2.50	3.02	0.52
	Average	3.45	3.79	0.35
Jan	2021	2.45	2.91	0.46
Feb	2021	2.70	3.09	0.39
Mar	2021	3.04	3.44	0.40
Apr	2021	2.90	3.30	0.40
May	2021	2.96	3.33	0.37
Jun	2021	2.79	3.16	0.37
Jul	2021	2.57	2.95	0.38
Aug	2021	2.55	2.95	0.40
Sep	2021	2.53	2.96	0.43
Oct	2021	2.68	3.09	0.41
Nov	2021	2.62	3.02	0.40
Dec	2021	2.71	3.13	0.42
Avg	2021	2.71	3.11	0.40
Jan	2022	3.07	3.33	0.26
Feb	2022	3.25	3.68	0.43
Mar	2022	3.43	3.98	0.55
Apr	2022	3.76	4.32	0.56
May	2022	4.13	4.75	0.62
Jun	2022	4.24	4.86	0.62
Jul	2022	4.06	4.78	0.72

Source of Information: MERGENT BOND RECORD

Case No. VEO-W-22-02  
Exhibit No. 1  
Schedule 16  
H. Walker  
Page 3 of 3

Market Value CAPM for  
The Water Group Followed by Analysts

Water Group  
Followed by  
Analysts

Estimation Based Upon Historical Information

Market Premium(1)	7.5 %
x Beta(2)	<u>0.77</u>
Risk Adjusted Market Premium	5.8
Size Adjustment Premium(2)	1.5
Plus Risk Free Rate(1)	<u>3.2</u>
Market Value CAPM Cost Rate	<u><u>10.5 %</u></u>

Estimation Based Upon Projected Information

Market Premium(1)	13.7 %
x Beta(2)	<u>0.77</u>
Risk Adjusted Market Premium	10.5
Size Adjustment Premium(2)	1.5
Plus Risk Free Rate(1)	<u>3.2</u>
Market Value CAPM Cost Rate	<u><u>15.2 %</u></u>

Market Value CAPM is: 10.5%
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- Notes: (1) Developed on page 2 of this Schedule.  
(2) Developed on page 4 of this Schedule.  
(3) Developed on page 5 of this Schedule.

Development of Market Premiums for Use in a CAPM Model

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>
Value Line Summary & Index Month End Edition	Forecasted Market Dividend Yield	Stock Price Appreciation Next 3-5 Years	Annual Price Appreciation(1)	Annual Total Return(1)	Midpoint Market Return(2)	Average Market Return(3)	CAPM Projected Market Return(6)
May-22	2.1 %	70 %	14.2 %	16.3 %			
June-22	2.2	75	15.0	17.2			
July-22	2.3	75	15.0	17.3			
					<u>16.8 %</u>	<u>16.9 %</u>	16.9 %
					Less Risk Free Rate(4)		<u>3.2</u>
					Estimated Market Premium Based Upon Projected Information (1)		<u>13.7 %</u>
							<u>7.5 %</u>

See next page of this Schedule for Notes.

CAPM  
The Water Group Followed by Analysts

- Notes: (1) A projected market premium is based upon the projected market return rate derived from the Value Line Summary and Index for the various dates shown. For example, Value Line projects (Jul-22) that the market will appreciate in price 75% over the next three to five years. Using a four-year midpoint estimate, Value Line's appreciation potential equates to 15% annually ( $[1.75]^{.25}$ ). Additionally, Value Line estimates the market will have a dividend yield of 2.3%. Combining the market dividend yield of 2.3% with the market appreciation results in a projected market return rate of 17.3% ( $15\% + 2.3\%$ ).
- (2) Mid point of the month-end total market returns in Column E.
- (3) Average total market return in Column E.
- (4) As discussed in the direct testimony, the risk-free rate is 3.2%.
- (5) The historical market premium is based upon studies conducted by Ibbotson Associates concerning asset returns. Ibbotson Associates' asset return studies are the most noted asset return rate studies available today. The results are widely disseminated throughout the investment public. Ibbotson Associates' long-term common stock total market return is 12.33% which, when reduced by the long-term historic risk-free rate of 4.87% results in a market premium of 7.5% ( $12.33\% - 4.87\%$ ).

Recent Market Values and  
Beta Adjusted Ibbotson Associates Size Premiums For  
The Water Group Followed by Analysts

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
	Recent Market <u>Value</u> (Mill \$)	Market Quartile <u>Name</u>	Market <u>Quartile</u>	Quartile Size <u>Premium</u>	Quartile <u>Beta</u>	Value Line <u>Beta</u>	Beta <u>Ratio</u>	Beta Adjusted Quartile Size <u>Premium</u>
<u>Water Group Followed by Analysts</u>								
American States Water Co	\$3,221.423	Mid-Cap	2	2.48	1.13	0.65	58%	1.4
American Water Works Co Inc	28,251.729	Large-Cap	1	0.00	1.00	0.85	85%	0.0
California Water Service Gp	3,265.708	Mid-Cap	2	2.48	1.13	0.65	58%	1.4
Essential Utilities, Inc.	13,442.977	Large-Cap	1	0.00	1.00	0.95	95%	0.0
Middlesex Water Co	1,670.056	Low-Cap	3	3.95	1.23	0.70	57%	2.3
SJW Corp	1,986.062	Low-Cap	3	3.95	1.23	0.80	65%	2.6
York Water Co	612.452	<u>Low-Cap</u>	<u>3</u>	<u>3.95</u>	<u>1.23</u>	<u>0.80</u>	<u>65%</u>	<u>2.6</u>
Average		<u>Mid-Cap</u>	<u>2</u>	<u>2.48</u>	<u>1.13</u>	<u>0.77</u>	<u>69%</u>	<u>1.5</u>

Source of Information: 2022 SBBI Yearbook, Stocks, Bonds, Bills, and Inflation, and Value Line

Market Value Risk Premium  
For the Water Group Followed by Analysts

	Water Group Followed by <u>Analysts</u>
Prospective Public Utility Bond Yields(1)	4.7 %
Estimated Risk Premium(2)	<u>5.5</u>
Market Value Risk Premium Indicated Cost Rate	<u><u>10.2</u></u> %

- Notes: (1) Based upon the current and prospective long-term debt cost rates, it is reasonable to expect that if the comparable group (i.e., Water Group) issued new long-term bonds, it would both be priced to yield about 4.7% based upon credit profiles of A for the Water Group.
- (2) A 5.5% risk premium is concluded for the Group after reviewing the tabulation of risk spreads shown on pages 2, 3, 4 and 5 of this Schedule.

Annual Total Returns and Risk Premiums of  
S&P Public Utility Stocks and Bonds  
for the Years 2002-2021, 1992-2021, 1982-2021, 1972-2021, 1962-2021, 1952-2021 and 1928-2021

Annual Total Returns							
<u>Periods</u>	<u>Public Utility Stock</u>	<u>L-Term T-Bonds</u>	<u>Public Utility Bonds</u>				
			<u>AAA</u>	<u>AAA &amp; AA</u>	<u>AA</u>	<u>A</u>	<u>BBB</u>
Average Annual Rates of Return							
2002 to 2021	0.1185	0.0725	0.0000	0.0865	0.0865	0.0886	0.0957
1992 to 2021	0.1183	0.0822	0.0916	0.0885	0.0890	0.0876	0.0935
1982 to 2021	0.1396	0.1038	0.1329	0.1096	0.1106	0.1113	0.1178
1972 to 2021	0.1311	0.0861	0.1000	0.0947	0.0956	0.0963	0.1030
1962 to 2021	0.1149	0.0759	0.0799	0.0822	0.0830	0.0838	0.0895
1952 to 2021	0.1236	0.0666	0.0668	0.0726	0.0733	0.0744	0.0799
1928 to 2021	0.1116	0.0577	0.0594	0.0658	0.0668	0.0690	0.0759
Average Risk Premiums							
2002 to 2021		0.0460	0.1185	0.0320	0.0320	0.0299	0.0229
1992 to 2021		0.0361	0.0268	0.0298	0.0293	0.0307	0.0248
1982 to 2021		0.0358	0.0067	0.0300	0.0291	0.0283	0.0218
1972 to 2021		0.0390	0.0349	0.0327	0.0319	0.0311	0.0254
1962 to 2021		0.0390	0.0349	0.0327	0.0319	0.0311	0.0254
1952 to 2021		0.0570	0.0567	0.0510	0.0503	0.0491	0.0437
1928 to 2021		0.0539	0.0522	0.0458	0.0448	0.0426	0.0357

Annual Total Returns, Annual Income Returns and Risk Premiums of  
S&P Public Utility Stocks and Bonds  
for the Years 2002-2021, 1992-2021, 1982-2021, 1972-2021, 1962-2021, 1952-2021 and 1928-2021

<u>Periods</u>	<u>Annual Total Returns Public Utility Stock</u>	<u>L-Term T-Bonds</u>	<u>Annual Income Returns</u>				
			<u>Public Utility Bonds</u>				
			<u>AAA</u>	<u>AAA &amp; AA</u>	<u>AA</u>	<u>A</u>	<u>BBB</u>
<u>Average Rates of Return</u>							
2002 to 2021	0.1185	0.0357	0.0000	0.0482	0.0482	0.0501	0.0551
1992 to 2021	0.1183	0.0456	0.0755	0.0578	0.0580	0.0597	0.0639
1982 to 2021	0.1396	0.0588	0.0918	0.0706	0.0709	0.0731	0.0773
1972 to 2021	0.1311	0.0645	0.0924	0.0756	0.0761	0.0784	0.0828
1962 to 2021	0.1149	0.0622	0.0836	0.0726	0.0732	0.0753	0.0795
1952 to 2021	0.1236	0.0581	0.0743	0.0675	0.0681	0.0702	0.0740
1928 to 2021	0.1116	0.0500	0.0609	0.0590	0.0597	0.0623	0.0670
<u>Average Risk Premiums</u>							
2002 to 2021		0.0828	0.1185	0.0703	0.0703	0.0684	0.0634
1992 to 2021		0.0727	0.0428	0.0605	0.0603	0.0587	0.0544
1982 to 2021		0.0808	0.0479	0.0690	0.0687	0.0665	0.0623
1972 to 2021		0.0527	0.0312	0.0423	0.0417	0.0396	0.0354
1962 to 2021		0.0527	0.0312	0.0423	0.0417	0.0396	0.0354
1952 to 2021		0.0655	0.0493	0.0560	0.0555	0.0534	0.0495
1928 to 2021		0.0615	0.0507	0.0526	0.0519	0.0493	0.0446

Annual Total Returns, Annual Income Returns and Risk Premiums of  
S&P Public Utility Stocks and Bonds  
For the 47 Years of the Lowest Interest Rate Environment and the 47 Years of the Highest Interest Rate Environment  
For The Years 1928-2021

Current Interest Rate Environment: 3.2%
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<u>Periods</u>	Public Utility <u>Stock</u>	L-Term <u>T-Bonds</u>	Public Utility Bonds				
			<u>AAA</u>	<u>AAA &amp; AA</u>	<u>AA</u>	<u>A</u>	<u>BBB</u>

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**Annual Total Returns**

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**Low Interest Rate Environment:**

47 Years of the Lowest Interest Rates, Ranging from 1.4% to 4.1% with an Average Rate of 2.9%

Average Rates of Return

	0.1121	0.0332	0.0366	0.0500	0.0512	0.0562	0.0679
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Average Risk Premiums

		0.0788	0.0754	0.0621	0.0609	0.0559	0.0442
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**High Interest Rate Environment:**

47 Years of the Highest Interest Rates, Ranging from 4.1% to 13.5% with an Average Rate of 7.2%

Average Risk Premiums

	0.1111	0.0822	0.0788	0.0815	0.0823	0.0818	0.0839
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Average Risk Premiums

		0.0289	0.0323	0.0296	0.0287	0.0293	0.0271
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**Annual Income Returns**

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**Low Interest Rate Environment:**

47 Years of the Lowest Interest Rates, Ranging from 1.4% to 4.1% with an Average Rate of 2.9%

Average Rates of Return

	0.1121	0.0285	0.0340	0.0366	0.0372	0.0401	0.0459
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Average Risk Premiums

		0.0835	0.0780	0.0755	0.0748	0.0719	0.0661
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**High Interest Rate Environment:**

47 Years of the Highest Interest Rates, Ranging from 4.1% to 13.5% with an Average Rate of 7.2%

Average Risk Premiums

	0.1111	0.0716	0.0837	0.0814	0.0822	0.0844	0.0881
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Average Risk Premiums

		0.0395	0.0274	0.0296	0.0289	0.0267	0.0230
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Annual Total Returns of  
S&P Public Utility Stocks and Bonds  
for the Years 1928-2021

Years	Annual Total Returns						
	Public Utility Stocks	L-Term T-Bonds	Public Utility Bonds				
			AAA	AAA & AA	AA	A	BBB
1928	0.5431	-0.0030	0.0370	0.0388	0.0406	0.0372	0.0392
1929	0.1376	0.0410	0.0209	0.0193	0.0178	0.0163	-0.0076
1930	-0.2149	0.0509	0.0917	0.0892	0.0869	0.0820	0.0378
1931	-0.3193	-0.0782	0.0058	-0.0059	-0.0171	-0.0608	-0.1089
1932	-0.0724	0.1736	0.1073	0.1037	0.1003	0.0685	0.0570
1933	-0.2170	0.0090	0.0142	-0.0145	-0.0401	-0.0686	-0.0601
1934	-0.1743	0.0962	0.1712	0.2000	0.2272	0.3264	0.4593
1935	0.6914	0.0610	0.1053	0.1243	0.1427	0.1760	0.2885
1936	0.2357	0.0691	0.0783	0.0916	0.1046	0.1079	0.1078
1937	-0.3337	-0.0091	0.0290	0.0323	0.0357	0.0272	-0.0626
1938	0.1020	0.0662	0.0720	0.0773	0.0825	0.0884	0.1505
1939	0.1538	0.0692	0.0435	0.0473	0.0510	0.0851	0.0923
1940	-0.1643	0.0910	0.0480	0.0506	0.0532	0.0949	0.1359
1941	-0.3050	0.0234	0.0255	0.0291	0.0327	0.0428	0.0681
1942	0.1079	-0.0735	0.0261	0.0287	0.0313	0.0314	0.0590
1943	0.4750	0.0228	0.0312	0.0346	0.0380	0.0405	0.0564
1944	0.1879	0.0268	0.0343	0.0353	0.0362	0.0303	0.0459
1945	0.5665	0.1075	0.0298	0.0349	0.0383	0.0683	0.0805
1946	-0.0130	-0.0006	0.0233	0.0238	0.0242	0.0267	0.0377
1947	-0.1236	-0.0165	-0.0139	-0.0187	-0.0234	-0.0213	-0.0105
1948	0.0451	0.0202	0.0287	0.0317	0.0347	0.0225	0.0073
1949	0.3074	0.0760	0.0718	0.0746	0.0773	0.0892	0.0757
1950	0.0152	-0.0034	0.0126	0.0131	0.0135	0.0107	0.0233
1951	0.2075	-0.0541	-0.0393	-0.0393	-0.0393	-0.0468	-0.0268
1952	0.1947	0.0101	0.0373	0.0390	0.0407	0.0442	0.0399
1953	0.0918	0.0062	0.0078	0.0063	0.0048	0.0107	0.0037
1954	0.2269	0.0676	0.0668	0.0701	0.0733	0.0745	0.0909
1955	0.1357	-0.0264	-0.0107	-0.0127	-0.0147	-0.0100	0.0146
1956	0.0416	-0.0484	-0.0703	-0.0703	-0.0703	-0.0714	-0.0816
1957	0.0541	0.0472	0.0246	0.0229	0.0213	0.0054	-0.0131
1958	0.3827	-0.0439	-0.0081	-0.0032	0.0017	0.0123	0.0339
1959	0.0958	-0.0320	-0.0231	-0.0234	-0.0237	-0.0120	-0.0102
1960	0.1680	0.1106	0.0764	0.0735	0.0705	0.0791	0.0994
1961	0.3646	0.0135	0.0432	0.0448	0.0464	0.0502	0.0442
1962	-0.0519	0.0650	0.0831	0.0829	0.0828	0.0852	0.0891
1963	0.1261	-0.0022	0.0171	0.0202	0.0232	0.0294	0.0329
1964	0.1685	0.0439	0.0394	0.0391	0.0387	0.0409	0.0396
1965	0.0489	-0.0064	-0.0010	-0.0014	-0.0018	-0.0044	0.0050
1966	-0.0504	0.0085	-0.0501	-0.0509	-0.0518	-0.0602	-0.0990
1967	-0.0216	-0.0650	-0.0525	-0.0539	-0.0553	-0.0592	-0.0271
1968	0.1419	0.0149	0.0268	0.0224	0.0181	0.0286	0.0243
1969	-0.1769	-0.0640	-0.0792	-0.0839	-0.0885	-0.0960	-0.0892
1970	0.1494	0.1537	0.0970	0.0978	0.0987	0.0952	0.0761
1971	0.0050	0.0999	0.1168	0.1241	0.1313	0.1510	0.1681
1972	0.1464	0.0661	0.0912	0.0980	0.1047	0.1103	0.1387
1973	-0.2106	-0.0893	0.0158	0.0138	0.0118	0.0156	0.0150
1974	-0.2135	0.0092	-0.0315	-0.0360	-0.0405	-0.0683	-0.1033

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Annual Total Returns of  
S&P Public Utility Stocks and Bonds  
for the Years 1928-2021

Years	Annual Total Returns						
	Public Utility Stocks	L-Term T-Bonds	Public Utility Bonds				
			AAA	AAA & AA	AA	A	BBB
1975	0.4364	0.0465	0.0915	0.0863	0.0813	0.0872	0.0940
1976	0.3245	0.1955	0.1976	0.2017	0.2058	0.2475	0.2806
1977	0.1076	0.0074	0.0459	0.0545	0.0629	0.0683	0.0903
1978	-0.0174	-0.0189	-0.0083	-0.0055	-0.0027	-0.0026	0.0000
1979	0.1221	-0.0289	-0.0424	-0.0509	-0.0590	-0.0655	-0.0823
1980	0.1275	-0.0804	-0.0782	-0.0778	-0.0773	-0.0702	-0.0649
1981	0.1464	0.0472	0.0616	0.0674	0.0730	0.0416	0.0674
1982	0.2292	0.4323	0.3294	0.3750	0.3942	0.3708	0.3808
1983	0.2372	-0.0049	0.0721	0.0691	0.0763	0.1406	0.1347
1984	0.2219	0.1611	0.1770	0.1796	0.1768	0.1783	0.2075
1985	0.3232	0.3143	0.3473	0.3276	0.3259	0.3143	0.3098
1986	0.3575	0.3692	0.2994	0.2720	0.2698	0.2835	0.2933
1987	-0.0544	-0.1013	-0.1132	-0.0637	-0.0566	-0.0435	-0.0505
1988	0.1849	0.1026	0.2027	0.1615	0.1594	0.1643	0.1919
1989	0.4351	0.2176	0.1770	0.1743	0.1715	0.1692	0.1781
1990	0.0069	0.0482	0.0685	0.0689	0.0722	0.0738	0.0728
1991	0.0931	0.1472	0.1813	0.1647	0.1624	0.1715	0.1878
1992	0.1183	0.1093	0.1264	0.1312	0.1324	0.1355	0.1315
1993	0.1661	0.2162	0.1926	0.2126	0.2190	0.1429	0.1590
1994	-0.0825	-0.1075	-0.0802	-0.0656	-0.0657	0.0065	-0.0351
1995	0.3772	0.3268	0.2860	0.3074	0.3089	0.2164	0.2442
1996	0.0550	0.0020	0.0279	0.0211	0.0214	0.0279	0.0415
1997	0.1959	0.1454	0.1181	0.1157	0.1169	0.1238	0.1496
1998	0.1896	0.1786	0.1431	0.0365	0.0289	0.1074	0.0981
1999	-0.0998	-0.1062	-0.0792	-0.0275	-0.0237	-0.0921	-0.0684
2000	0.5475	0.1922	0.1076	0.1150	0.1146	0.1101	0.1196
2001	-0.2877	0.0596	0.0734	0.0788	0.0873	0.0780	0.0534
2002	-0.2934	0.1362		0.1851	0.1851	0.2461	0.1746
2003	0.2509	0.0488		0.1678	0.1678	0.1529	0.2329
2004	0.2763	0.0861		0.1162	0.1162	0.0782	0.0919
2005	0.2151	0.0520		0.0869	0.0869	0.0732	0.0541
2006	0.2323	0.0421		0.0486	0.0486	0.0596	0.0759
2007	0.1434	0.0814		0.0043	0.0043	0.0143	0.0042
2008	-0.3160	0.2953		0.0733	0.0733	0.0132	-0.1109
2009	0.1801	-0.1460		0.1159	0.1159	0.1662	0.3279
2010	0.0795	0.0755		0.0809	0.0809	0.0871	0.0893
2011	0.2051	0.3271		0.2701	0.2701	0.2505	0.2019
2012	0.1272	0.0622		0.0801	0.0801	0.0955	0.1287
2013	0.1363	-0.1592		-0.0850	-0.0850	-0.0758	-0.0494
2014	0.3017	0.2419		0.1577	0.1577	0.1872	0.1333
2015	-0.0629	0.0115		-0.0031	-0.0031	-0.0227	-0.0682
2016	0.1834	-0.0224		0.0443	0.0443	0.0512	0.1625
2017	0.1966	0.0714		0.1224	0.1224	0.1211	0.1505
2018	0.0644	-0.0579		-0.0566	-0.0566	-0.0477	-0.0680
2019	0.2690	0.2127		0.2209	0.2209	0.2098	0.2471
2020	0.0301	0.1584		0.1505	0.1505	0.1465	0.1557
2021	0.1510	-0.0679		-0.0499	-0.0499	-0.0335	-0.0210

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Annual Total Returns of S&P Public Utility Stocks  
And Annual Income Returns of Bonds  
for the Years 1928-2021

Years	Annual Total Returns		Income Returns				
	Public Utility Stocks	L-Term T-Bonds	Public Utility Bonds				
			AAA	AAA & AA	AA	A	BBB
1928	0.5431	0.0329	0.0451	0.0460	0.0470	0.0499	0.0541
1929	0.1376	0.0361	0.0468	0.0479	0.0490	0.0522	0.0578
1930	-0.2149	0.0332	0.0458	0.0470	0.0482	0.0514	0.0591
1931	-0.3193	0.0338	0.0434	0.0449	0.0463	0.0511	0.0635
1932	-0.0724	0.0350	0.0474	0.0504	0.0535	0.0640	0.0815
1933	-0.2170	0.0315	0.0436	0.0468	0.0499	0.0604	0.0833
1934	-0.1743	0.0306	0.0402	0.0436	0.0471	0.0559	0.0713
1935	0.6914	0.0278	0.0351	0.0376	0.0402	0.0466	0.0544
1936	0.2357	0.0273	0.0324	0.0343	0.0362	0.0415	0.0465
1937	-0.3337	0.0275	0.0320	0.0334	0.0347	0.0395	0.0486
1938	0.1020	0.0263	0.0303	0.0316	0.0329	0.0392	0.0510
1939	0.1538	0.0239	0.0286	0.0296	0.0305	0.0360	0.0448
1940	-0.1643	0.0224	0.0277	0.0285	0.0293	0.0331	0.0410
1941	-0.3050	0.0197	0.0269	0.0276	0.0283	0.0304	0.0366
1942	0.1079	0.0239	0.0272	0.0279	0.0287	0.0305	0.0358
1943	0.4750	0.0246	0.0264	0.0269	0.0273	0.0296	0.0338
1944	0.1879	0.0248	0.0265	0.0268	0.0272	0.0294	0.0333
1945	0.5665	0.0229	0.0256	0.0261	0.0266	0.0285	0.0318
1946	-0.0130	0.0208	0.0250	0.0254	0.0257	0.0268	0.0293
1947	-0.1236	0.0215	0.0257	0.0261	0.0264	0.0273	0.0297
1948	0.0451	0.0240	0.0282	0.0287	0.0292	0.0301	0.0327
1949	0.3074	0.0223	0.0270	0.0274	0.0277	0.0291	0.0324
1950	0.0152	0.0216	0.0262	0.0264	0.0267	0.0276	0.0312
1951	0.2075	0.0244	0.0285	0.0288	0.0291	0.0307	0.0334
1952	0.1947	0.0265	0.0300	0.0303	0.0305	0.0324	0.0351
1953	0.0918	0.0300	0.0325	0.0328	0.0331	0.0347	0.0371
1954	0.2269	0.0266	0.0296	0.0298	0.0301	0.0317	0.0348
1955	0.1357	0.0287	0.0307	0.0309	0.0311	0.0324	0.0341
1956	0.0416	0.0310	0.0335	0.0337	0.0340	0.0357	0.0374
1957	0.0541	0.0355	0.0397	0.0400	0.0403	0.0428	0.0452
1958	0.3827	0.0344	0.0384	0.0386	0.0389	0.0414	0.0447
1959	0.0958	0.0409	0.0445	0.0448	0.0451	0.0470	0.0494
1960	0.1680	0.0409	0.0450	0.0453	0.0455	0.0473	0.0489
1961	0.3646	0.0391	0.0442	0.0445	0.0449	0.0462	0.0476
1962	-0.0519	0.0401	0.0434	0.0437	0.0439	0.0450	0.0466
1963	0.1261	0.0403	0.0427	0.0429	0.0431	0.0437	0.0456
1964	0.1685	0.0419	0.0441	0.0442	0.0443	0.0450	0.0466
1965	0.0489	0.0424	0.0448	0.0450	0.0451	0.0458	0.0475
1966	-0.0504	0.0475	0.0513	0.0515	0.0518	0.0531	0.0552
1967	-0.0216	0.0494	0.0553	0.0556	0.0559	0.0576	0.0605
1968	0.1419	0.0543	0.0621	0.0627	0.0633	0.0651	0.0684
1969	-0.1769	0.0624	0.0706	0.0716	0.0725	0.0743	0.0778
1970	0.1494	0.0692	0.0822	0.0833	0.0844	0.0870	0.0913
1971	0.0050	0.0614	0.0766	0.0777	0.0789	0.0825	0.0868
1972	0.1464	0.0601	0.0744	0.0751	0.0758	0.0778	0.0815
1973	-0.2106	0.0701	0.0762	0.0767	0.0773	0.0789	0.0812
1974	-0.2135	0.0800	0.0849	0.0861	0.0873	0.0899	0.0929

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Annual Total Returns of S&P Public Utility Stocks  
And Annual Income Returns of Bonds  
for the Years 1928-2021

<u>Years</u>	Annual Total Returns		Income Returns				
	Public Utility Stocks	L-Term T-Bonds	Public Utility Bonds				
			<u>AAA</u>	<u>AAA &amp; AA</u>	<u>AA</u>	<u>A</u>	<u>BBB</u>
1975	0.4364	0.0817	0.0894	0.0912	0.0929	0.0978	0.1057
1976	0.3245	0.0794	0.0864	0.0880	0.0895	0.0928	0.0987
1977	0.1076	0.0765	0.0814	0.0829	0.0845	0.0859	0.0896
1978	-0.0174	0.0840	0.0877	0.0888	0.0900	0.0917	0.0947
1979	0.1221	0.0921	0.0962	0.0978	0.0995	0.1017	0.1064
1980	0.1275	0.1115	0.1182	0.1211	0.1241	0.1271	0.1352
1981	0.1464	0.1349	0.1427	0.1458	0.1489	0.1529	0.1616
1982	0.2292	0.1309	0.1439	0.1448	0.1464	0.1532	0.1610
1983	0.2372	0.1115	0.1247	0.1229	0.1237	0.1298	0.1350
1984	0.2219	0.1247	0.1297	0.1339	0.1341	0.1374	0.1434
1985	0.3232	0.1104	0.1187	0.1179	0.1189	0.1228	0.1270
1986	0.3575	0.0802	0.0908	0.0930	0.0940	0.0973	0.1015
1987	-0.0544	0.0843	0.0934	0.0946	0.0953	0.0985	0.1027
1988	0.1849	0.0897	0.1013	0.1009	0.1014	0.1040	0.1083
1989	0.4351	0.0854	0.0938	0.0949	0.0955	0.0980	0.1001
1990	0.0069	0.0858	0.0943	0.0959	0.0964	0.0985	0.1009
1991	0.0931	0.0818	0.0891	0.0915	0.0921	0.0943	0.0961
1992	0.1183	0.0769	0.0822	0.0860	0.0869	0.0887	0.0897
1993	0.1661	0.0671	0.0737	0.0776	0.0780	0.0805	0.0816
1994	-0.0825	0.0730	0.0794	0.0799	0.0802	0.0826	0.0868
1995	0.3772	0.0708	0.0781	0.0774	0.0776	0.0813	0.0857
1996	0.0550	0.0672	0.0745	0.0742	0.0745	0.0762	0.0805
1997	0.1959	0.0670	0.0746	0.0743	0.0746	0.0747	0.0782
1998	0.1896	0.0572	0.0682	0.0674	0.0677	0.0687	0.0710
1999	-0.0998	0.0592	0.0710	0.0740	0.0748	0.0743	0.0766
2000	0.5475	0.0607	0.0790	0.0817	0.0821	0.0830	0.0839
2001	-0.2877	0.0557	0.0747	0.0777	0.0780	0.0787	0.0810
2002	-0.2934	0.0542		0.0730	0.0730	0.0754	0.0818
2003	0.2509	0.0496		0.0646	0.0646	0.0623	0.0673
2004	0.2763	0.0505		0.0608	0.0608	0.0617	0.0641
2005	0.2151	0.0465		0.0546	0.0546	0.0566	0.0592
2006	0.2323	0.0499		0.0583	0.0583	0.0607	0.0632
2007	0.1434	0.0493		0.0591	0.0591	0.0605	0.0629
2008	-0.3160	0.0448		0.0619	0.0619	0.0650	0.0711
2009	0.1801	0.0401		0.0579	0.0579	0.0610	0.0721
2010	0.0795	0.0405		0.0525	0.0525	0.0548	0.0598
2011	0.2051	0.0375		0.0489	0.0489	0.0514	0.0565
2012	0.1272	0.0256		0.0385	0.0385	0.0416	0.0490
2013	0.1363	0.0302		0.0417	0.0417	0.0441	0.0492
2014	0.3017	0.0316		0.0424	0.0424	0.0435	0.0485
2015	-0.0629	0.0254		0.0397	0.0397	0.0408	0.0496
2016	0.1834	0.0221		0.0373	0.0373	0.0394	0.0474
2017	0.1966	0.0267		0.0386	0.0386	0.0404	0.0443
2018	0.0644	0.0307		0.0404	0.0404	0.0420	0.0460
2019	0.2690	0.0248		0.0369	0.0369	0.0385	0.0429
2020	0.0301	0.0141		0.0285	0.0285	0.0307	0.0345
2021	0.1510	0.0194		0.0293	0.0293	0.0308	0.0334

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Development of the Projected Risk Premium

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>
Value Line Summary & Index Month End <u>Edition</u>	Forecasted Market Dividend <u>Yield</u>	Stock Price Appreciation <u>Next 3-5 Years</u>	Annual Price <u>Appreciation</u>	Forecasted Annual Total <u>Return</u>	Less: Yield of Moody's A Rated <u>Industrial Bonds</u>	Forecasted Equity <u>Premium</u>	Estimated Risk <u>Adjustment</u>	Forecasted Risk <u>Premium</u>
May-22	2.1 %	70 %	14.2 %	16.3 %	4.55 %	11.8 %	85 %	10.0 %
June-22	2.2	75	15.0	17.2	4.68	12.5	85	10.6
July-22	2.3	75	15.0	17.3	4.55	12.8	85	10.8
		Midpoint of data		16.8		12.3		10.4 %
		Quarter's Average		16.9		12.3		10.5 %

Veolia Water Idaho, Inc.  
Common Equity Cost Rate Summary

	Water Group Followed by Analysts		
	<u>DCF(1)</u>	<u>CAPM(2)</u>	<u>RP(3)</u>
Common Equity Cost Rate Range	9.60 %	11.60 %	11.30 %
Investment Risk Adjustments (4)	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
Veolia Water Idaho, Inc. Adjusted Common Equity Cost Rate Range:	<u>9.60</u>	<u>11.60</u>	<u>11.30</u>
Veolia Water Idaho, Inc. Recommended Common Equity Cost Rate (5)	<u><u>10.80 %</u></u>		
Check of Reasonableness of Common Equity Cost Rate (6)	10.6 % to 10.8 %		

- Notes: (1) From Schedule 12 and explained in the Direct Testimony.  
(2) From Schedule 17 and explained in the Direct Testimony.  
(3) From Schedule 18 and explained in the Direct Testimony.  
(4) As explained in the Direct Testimony.  
(5) As explained in the Direct Testimony, the recommendation is only applicable to a rate making common equity ratio of 55%. (~55.00%)  
(6) See page 2 of Schedule 14.